UNIVERSITÉ DE SHERBROOKE

Faculté d'éducation

Les différentes perceptions étudiantes de la communauté d'apprentissage dans un contexte d'enseignement hybride synchrone

Differences in Students' Perceptions of the Community of Inquiry in a Blended Synchronous Delivery Mode

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Anne-Marie Lafortune

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ABSTRACT

The blended synchronous delivery mode offers students flexibility to access educational opportunities. In this real-time setting, the instructor is teaching in a room with face-to-face students while other students are attending from a satellite site via an online platform. Asynchronous learning activities are also taking place, usually online. In this context, just like in any delivery mode, all students should have access to equal learning opportunities; yet, studies, including this research, have found differences in face-to-face and online students' perceptions of the community of inquiry in a blended synchronous delivery mode.

The Community of Inquiry (CoI) framework was adopted as theoretical lens for this research. Developed by Garrison and Arbaugh (2007), it suggests that there are three elements essential to an educational transaction, namely the teaching presence, the social presence and the cognitive presence. Shea and Bidjerano (2010) later added a fourth presence, the learner presence. Research reveals that students who perceive all four presences to be strong are satisfied with their educational experience; however, research also shows that in a blended learning environment, there can be a difference between face-to-face and online students' perceptions of the community of inquiry. This means that both groups can have different learning opportunities.

Given that more post-secondary institutions are turning to distance education for various reasons (flexibility, access, enrolment numbers, and program diversity), it is essential to find out whether the blended synchronous delivery mode (BSDM) affects students' perceptions of the CoI. This research lays the foundation for a Master's thesis research project on students' different perceptions of the CoI in a BSDM. We examine the underlying principles of effective pedagogy, such as social constructivism and the CoI, the different distance course delivery modes available, and their advantages and challenges. The literature review on face to face (F2F) and satellite students enrolled in a non-F2F course reveals that both groups may have a different perception of the CoI presences. To verify this hypothesis, a study was conducted at the Cégep de la Gaspésie et des Îles (CGÎM). Over the winter 2017 semester, participants enrolled in three different courses taught in the BSDM mode in the nursing program at the CGÎM answered a questionnaire measuring their perceptions of the four CoI presences. The questions helped gather both

quantitative and qualitative data for the mixed-methods study detailed in this proposal. From a total of 45 participants, 20 were attending their course in person while 25 were at a satellite site.

Using a mixed approach, this research measured and analyzed differences in face-to-face and online students' perceptions of the community of inquiry in a blended synchronous delivery mode. To measure students' perceptions of the four presences, we used a questionnaire elaborated by Garrison, Anderson and Archer (2000) and later revised by Shea and Bidjerano (2010). Four specific research questions were addressed. First, we looked at whether face-to-face and online students had a different perception of the distinctive elements of the teaching presence. Then, we looked at whether face-to-face and online students had a different perception of the distinctive elements of the social presence. Third, we looked at whether face-to-face and online students had a different perception of the distinctive elements of the cognitive presence. Finally, we looked at whether face-to-face and online students had a different perception of the distinctive elements of the learner presence. We examined both overall scores for each presence, as well as the distinctive elements of each of the four presences.

For the first research question, we found that face-to-face participants perceived a stronger teaching presence. More specifically, they felt that the instructor better communicated course topics and due dates, that they helped them learn and provided helpful feedback. No statistical difference was found for the second research question. Our third research question revealed that face-to-face students felt more motivated to explore content-related topics than the online students, while students at the satellite site found that online discussions helped them appreciate different perspectives more than face-to-face students did. The fourth research question revealed that face-to-face students know how to evaluate the quality of their work, are aware of their strengths as well as weaknesses in a learning context, and take the time to review the material related to the work to be done - more than online students do.

The results of this research suggest that in a blended synchronous delivery mode, face-to-face and students at a satellite site can have different perceptions of the four presences. This means that this type of delivery mode does not necessarily offer both groups equal learning opportunities. The teachers' and students' comments provide rich insight on why this may be. More work should

be done on the relationship between this delivery mode and the community of inquiry. Further research may examine the emotional presence, and the relationship between the Cognitive Load Theory and the blended synchronous delivery mode. Finally, the questionnaire based on the Community of Inquiry framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) could be used in professional development; for example, in instances of teacher training.

Keywords*:* Online Teaching and Learning, Community of Inquiry, Teaching Presence, Social Presence, Cognitive Presence, Learner Presence, Student Perceptions, Blended synchronous learning environment, Blended Synchronous Delivery Mode, Course design, Pedagogy, Best practices, Web-based instruction, Distance education, Social constructivism.

RÉSUMÉ

Le mode d'enseignement hybride synchrone offre aux étudiants la flexibilité d'accéder à différentes opportunités éducatives. Dans un contexte en temps réel, l'instructeur enseigne dans une salle de classe avec des étudiants face-à-face alors que d'autres étudiants assistent également à partir d'un site satellite via une plateforme en ligne. Des activités d'apprentissage asynchrones ont également lieu, généralement en ligne.

Le cadre conceptuel de la communauté d'apprentissage a été utilisé pour cette recherche. Développé par Garrison et Arbaugh (2007), il suggère que trois éléments sont essentiels à une transaction éducative ; la présence enseignante, la présence sociale et la présence cognitive. Shea et Bidjerano (2010) ont ajouté plus tard une quatrième présence, la présence de l'apprenant. La recherche révèle que les élèves qui perçoivent les quatre présences comme étant fortes sont satisfaits de leur expérience éducative. Cependant, la recherche démontre également que, dans un environnement d'apprentissage hybride synchrone, il peut y avoir une différence entre les perceptions de la communauté d'apprentissage des étudiants en ligne et ceux en présentiel. Cela signifie que les deux groupes peuvent avoir différentes opportunités d'apprentissage.

Étant donné que davantage d'établissements postsecondaires se tournent vers l'enseignement à distance pour diverses raisons (flexibilité, accès, augmentation du nombre d'inscriptions, et diversité des programmes), il est essentiel de déterminer si le mode d'enseignement hybride synchrone affecte la perception des étudiants. Cette recherche est dans le cadre d'un projet de maîtrise sur les perceptions des étudiants de la communauté d'apprentissage dans un environnement d'apprentissage hybride synchrone. Nous examinons les principes sous-jacents d'une pédagogie efficace, tels que le constructivisme social et la communauté d'apprentissage, les différents modes de prestation des cours à distance, ainsi que leurs avantages et leurs défis. La revue de la littérature sur les étudiants en présentiel et à distance inscrits à un cours hybride synchrone révèle que les deux groupes peuvent avoir une perception différente des quatre présences. Pour vérifier cette hypothèse, une étude a été menée au Cégep de la Gaspésie et des Îles (CGÎM). Au cours du semestre d'hiver 2017, les participants inscrits à trois différents cours enseignés en mode hybride synchrone dans le cadre du programme de soins infirmiers du CGÎM

ont répondu à un questionnaire mesurant leur perception des quatre présences de la communauté d'apprentissage. Les questions ont permis de recueillir des données quantitatives et qualitatives. Sur un total de 45 participants, 20 assistaient à leur cours en personne tandis que 25 étaient à un site satellite.

À l'aide d'une approche mixte, cette recherche a mesuré et analysé les différences dans les perceptions de la communauté d'apprentissage des étudiants en ligne et en présentiel dans un mode d'enseignement hybride synchrone. Pour mesurer les perceptions des élèves des quatre présences, nous avons utilisé un questionnaire élaboré par Garrison, Anderson and Archer (2000) et révisé par Shea et Bidjerano (2010). Quatre questions de recherche spécifiques ont été abordées. Premièrement, nous avons examiné si les étudiants en présentiel et en ligne avaient une perception différente des éléments distinctifs de la présence enseignante. Ensuite, nous avons examiné si les étudiants en présentiel et en ligne avaient une perception différente des éléments distinctifs de la présence sociale. Troisièmement, nous avons examiné si les étudiants en présentiel et en ligne avaient une perception différente des éléments distinctifs de la présence cognitive. Enfin, nous avons examiné si les étudiants en présentiel et en ligne avaient une perception différente des éléments distinctifs de la présence de l'apprenant. Nous avons examiné les moyennes pour chaque présence, ainsi que les éléments distinctifs de chacune des quatre présences.

Pour la première question de recherche, nous avons constaté que les participants en présentiel percevaient une présence enseignante plus forte. Plus précisément, ils ont estimé que l'instructeur communiquait mieux les sujets et les dates d'échéance des cours, qu'il les avait aidés à apprendre et qu'il avait fourni des commentaires utiles. Aucune différence statistique n'a été trouvée pour la deuxième question de recherche. Notre troisième question de recherche a révélé que les étudiants en présentiel se sentaient plus motivés à explorer des sujets liés au contenu que les étudiants en ligne, tandis que les étudiants du site distant trouvaient plus que les étudiants en présentiel que les discussions en ligne les aidaient à apprécier différentes perspectives. La quatrième question de recherche a révélé que les étudiants en présentiel savent évaluer la qualité de leur travail, qu'ils sont plus conscients que les étudiants en ligne de leurs forces et de leurs faiblesses dans un contexte d'apprentissage, et qu'ils prennent plus le temps d'examiner le matériel lié au travail à faire.

Les résultats de cette recherche suggèrent que dans un mode d'enseignement hybride synchrone, les étudiants en ligne et en présentiel peuvent avoir des perceptions différentes des quatre présences. Cela signifie que ce type de mode d'enseignement n'offre pas nécessairement aux deux groupes des opportunités d'apprentissage égales. Les commentaires des enseignants et des élèves aident à mieux comprendre ces différences. Plus de travail devrait être fait sur la relation entre ce mode d'enseignement et la communauté d'apprentissage. Des recherches plus approfondies pourraient examiner la présence émotionnelle, et la relation entre la théorie de la charge cognitive et le mode d'enseignement hybride synchrone. Enfin, le questionnaire basé sur le cadre conceptuel de la communauté d'apprentissage élaboré par Garrison et al. (2000) et révisé par Shea et Bidjerano (2010) pourrait être utilisé dans un cadre de développement professionnel ; par exemple, dans les cas de formation des enseignants.

Mots-clés : Enseignement et apprentissage en ligne, Communauté d'apprentissage, Présence enseignante, Présence sociale, Présence cognitive, Présence des apprenants, Perceptions des étudiants, Environnement d'apprentissage synchrone hybride ou mixte, Mode synchrone hybride ou mixte, Pédagogie, Meilleures pratiques, Enseignement basé sur le Web, Éducation à distance, Constructivisme social.

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LIST OF ABBREVIATIONS, INITIALISMS, AND ACRONYMS

ACS	Attestation of collegial studies
ATI	Aptitude-Treatment Interaction
BSDM	Blended Synchronous Delivery Mode
BSLE	Blended Synchronous Learning Environment
CEGEP	Collège d'enseignement général et professionnel
CGÎM	Cégep de la Gaspésie et des Îles
CIFAD	Centre d'Innovation en Formation à Distance
CIRADD	Centre d'Initiation à la Recherche et d'Aide au Développement Durable
CoI	Community of Inquiry
CP	Cognitive Presence
CSUSM	California State University in San Marcos
DCS	Diploma of college studies
EPAQ	École des pêches et aquaculture
ESL	English as a Second Language
F2F	Face-to-face
FAD	Formation À Distance
GPA	Grade Point Average
HyFlex	Hybrid-Flexible
IHSSC-GÎM	Integrated Health and Social Services Center - Gaspésie et des Îles de la Madeleine
IT	Information Technology
IDS	Instructional Development Services
LP	Learner Presence
MOOC	Massive Open Online Courses
MTP	Master Teacher Program
Non-F2F	Non-face-to-face
OCLaRE	Online Collaborative Laboratory-Reporting Environment
OL	Online Learning
OSRL	Online Self-Regulated Learning
PLC	Programmable Logic Controller
SP	Social Presence
SRL	Self-Regulated Learning
TP	Teaching Presence
UNESCO-UNEVOC	United Nations Educational, Scientific and Cultural Organization – International Center for Technical and Vocational Education and Training
ZPD	Zone of Proximal Development

INTRODUCTION

Statistics reveal that in 2016 more than a quarter of higher education students were enrolled in at least one online course (Online Learning Consortium, 2016); while it is clear that the education field has already turned to various non-traditional F2F course delivery modes, more and more students may actually find themselves enrolled in such a course without necessarily being given the choice. The fact that in a blended synchronous learning environment (BSLE) some participants are not in the same physical environment[1] has led some people to believe that the learning experience may not be optimal since it contradicts the social constructivist principles of interaction and collaboration. Moreover, since a strong CoI is associated with better learning outcomes (Wicks, Craft, Mason, Gritter, & Bolding, 2014), would not some participants experience weaker CoI presences, thus impacting the quality of their learning experience? The literature reveals that the BSDM has both benefits and challenges but we have yet to find out whether or how this type of delivery mode impacts participants' perceptions of the four CoI presences – namely, teaching, cognitive, social, and learner. This research seeks to find that out; the CoI questionnaire elaborated by Garrison, Anderson and Archer (2000) and later revised by Shea and Bidjerano (2010) was administered to 45 students at the Cégep de la Gaspésie et des Îles (CGÎM) in the winter 2017 semester. Of the 45 participants enrolled in three different courses in the nursing program, 20 were attending F2F while 25 were at a satellite campus. The mixed research study conducted at the CGÎM gathered both qualitative and quantitative data that shall be later analyzed to find out whether F2F and online students enrolled in a course taught in the BSDM have different perceptions of the CoI. This research first explores the series of events that have led post-secondary institutions to turn to distance education, from the 2009 Demers report, to the case of the CGÎM. The central concepts of the CoI and the BSDM are then presented in the conceptual framework chapter, followed by a literature review section that highlights both the importance of the CoI presences in non-F2F course delivery modes, including in a BSDM, and the goals of this study. The methodology used in terms of research design and instruments is described in chapter four. Finally, the data is presented and analyzed in chapter five while chapter six concludes with a discussion of the main results, limitations of the study, and suggestions for further research.

[1] In this research, the terms referring to participants « at a distance », « non-F2F », « online », and « at satellite sites » are used interchangeably.

CHAPTER ONE: STATEMENT OF THE PROBLEM

With an increase in post-secondary institutions, a decrease in funding, and a declining student population at the university level (Irvine, Code, & Richards, 2013), new models of learning have emerged to meet different educational needs. Online education is reported as critical to the long-term strategy of a majority of institutions (Tichavsky, Hunt, Driscoll, & Jicha, 2015).

On October 20, 2009, the Quebec Minister of Higher Education, Yves Bolduc, released the *Rapport d'étape du chantier sur l'offre de formation collégiale* (Report on the College Program Offerings), prepared by Guy Demers, former Director General of the Lévis-Lauzon Cégep. The mandate of the project on the offer of college training, launched at the end of the Summit on Higher Education in February 2013, was to produce a report making recommendations on the deployment of college training in Québec, defining regional training opportunities and optimizing the provision of continuing education and training in order to promote access to college training throughout Québec, a complementary supply of training in the regions, and the sustainability of programs in the regions (Demers, 2014).

As the author of the report pointed out in the introduction, the main element of the context leading to the opening of this project is the prospect of a significant drop in student numbers in the college network over the 2011-2020 period (26,500 students, a decrease of about 16% compared to the fall 2011 session) as a result of the demographic decline already affecting primary and secondary schools. The main question the report tackled was what measures should be taken to enable the college system, despite the significant drop in student numbers, to continue to offer accessible and diversified training in all regions of Quebec. Another issue the report addressed was the necessary measures that should be taken to respond to the growth in demand for labor from technical training, largely due to the considerable number of retirements (Demers, 2014). Indeed, baby boomers celebrated their 66th anniversary in 2012 and most of them shall have retired by 2021; yet by 2014 a decline was predicted among the 15 to 64-year-old population faction that makes up most the workforce in Québec. A 2011 study predicts that 1.4 million jobs will be vacant by 2021 due to economic growth (20%) and retirement (80%), while the unemployment rate shall

be at its lowest, 5.3%, since 1967 (Grenier, A., & Centre d'étude sur l'emploi et la technologie, 2011).

The CGÎM stands as an example of the regions Demers (2014) talks about in the report. The 1990s recession had a significant impact on the Gaspé peninsula; the Murdochville mine and the Chandler mill closed, while the fishing and forest industries were undergoing an important crisis. With the loss of 5,000 jobs, the unemployment rate hit 20% and a high number of the population left the region. The economic situation was soon felt in education, with decreasing enrollment, schools closing or even turning to multiple-grade classrooms. Many programs at the CGÎM were suspended and several employees lost their job (Bergeron, 2014). Daniel Labillois, CGÎM professor and researcher, points to the paradox the Gaspé peninsula is facing; while 12 000 job positions that require post-secondary instruction are estimated to become available between 2017 and 2021, a number of the population is unemployed and without any post-secondary qualifications (Grégoire, 2017).

To ensure the viability of CEGEPs in all regions of Québec despite the demographic decline, one of the report's recommendations was that the Minister develop a strategy for the deployment of distance education, which would prioritize projects in the colleges of the regions most affected by the reduction in student enrollment and initiatives involving several institutions. In the report, Demers (2014) highlighted the necessity for collaboration among CEGEPS and diversifying course formats, including distance education, in order to increase access to post-secondary education, and thus the overall number of student enrollment. Originally, the distance education format had emerged in response to a shortage of trained professionals; it was meant for individuals seeking to complete their education (through *Cégep à distance* for instance) while working, or to pursue an attestation of collegial studies (ACS), which is the shorter and more technical version of a diploma of college studies (DCS). Yet the demand for distance education has now extended to students enrolled in CEGEP and University (Cégep à distance, 2017). Indeed, by offering access to education in ways other than the traditional F2F format, distance education can help reach students living in rural areas and allow people to access education depending on their location and personal needs, as it is the case at the CGÎM (Bergeron, 2014).

The CGÎM is a large post-secondary institution consisting of one main campus with Francophone and Anglophone sectors (Gaspé), three satellite campuses (Magdalen islands, Grande-Rivière and Carleton-sur-Mer), three research centers (Merinov, the Centre d'Initiation à la Recherche et d'Aide au Développement Durable (CIRADD), and the Renewable Energy Research and Innivation Center NERGICA), one national school (École des Pêches et de l'Aquaculture du Québec (EPAQ), and one continuing education center (Collégia) (Cégep de la Gaspésie et des Îles, n.d.). Spread out over 20 308 km^2 on the Gaspé peninsula, together with the Cégep de Matane, the CGÎM serves an approximate 140 599 population; in comparison, the 4 258 km^2 Montreal metropolis has an over 1.70 million population (Statistics Canada, 2018). From 1997 to 2011, the region's student population dropped by 45%, leading the CGÎM to look for innovative solutions to continue to fulfill its educational vocation (Bergeron, 2014); as CGÎM director of studies Louis Bujold puts it, the CGÎM turned the threat of a declining student population into an opportunity to become a leader in distance education (Télé-Gaspé, 2018).

According to Bergeron (2014), the CGÎM has developed great expertise in the field of distance education since 2007. At the time, the Gaspésie et les Îles de la Madeleine Integrated Health and Social Services Center (IHSSC-GÎM) was expecting a shortage of qualified nurses at the Maria hospital. Yet, the nursing program was taught from the Gaspé campus so the CGÎM decided to turn to distance education to make its program more accessible. Not only was videoconferencing equipment installed in the classrooms at the Carleton-sur-Mer and Grande-Rivière campuses, but classrooms were also opened directly at the Maria hospital to encourage auxiliary nurses to become certified nurses (CISSS de la Gaspésie, 2012; see also Grégoire, 2017). In the literature, this innovative setting is known as a blended synchronous learning environment (BSLE) (Conklina, Oyarzun, & Barreto, 2017), and the course format as a blended synchronous delivery mode (BSDM) (Lakhal & Meyer, 2018). Since then, the expertise in distance education developed by the CGÎM has greatly expanded (Bergeron, 2014); this is in line with the 2014 Demers report, which highlights the necessity to diversify course formats, including distance education. While increasing access to post-secondary education, distance education also positively impacts the overall number of student enrollment (Bergeron, 2014).

In an internal CGÎM report, Bergeron (2010) details the institution's distance education past, present and future ambitions. In its quest to establish itself as the leader in distance education, the CGÎM has dedicated full-time information technology (IT) technicians to learn about and develop this new teaching and learning format. After extensive research, they chose what they consider to be the best long-lasting technology that could be easily extended - for instance, going from six participants to 300 without losing audio and video quality. Outside the actual classroom, the CGÎM is currently considering other technologies such as a wireless GoPro camera to share in real time the fish cultivation tanks at the EPAQ, camera glasses to show teachers from a distant site what the students are doing in laboratories (scientific, or on the site of an accident for instance), and drones in the emergency medical technique to fly over accident zones. To keep its unique status in the field of distance education, the CGÎM needs to constantly invest in the training of its IT technicians to develop up-to-date expertise. Those technicians also need release time to help resolve technical issues in real time as they occur in classrooms. For instance, one of them developed a programmable logic controller (PLC) to be able to manage the technical equipment from a distance, thus reducing the need for technicians at the actual physical sites. The CGÎM has to regularly invest in its equipment (it currently costs a minimum of 50 000$ to fully equip a single classroom effectively for approximately six to nine years), to keep the material up-to-date, to ensure fast and reliable connections, and to purchase new equipment as more recent, better technologies emerge.

From a pedagogical point of view, the CGÎM also works on solving common issues that arise in the BSDM. In 2011, the Cégep de Matane, Groupe Collégia and the CGÎM launched the *Centre d'Innovation en Formation à Distance* (CIFAD) to work on finding solutions to pedagogical problems in the context of distance education; for instance, they found a way for teachers to give individualized feedback to a student at a satellite site without having the entire class hear it. This can be done in real-time in several ways; in a virtual private space (breakout room), via telephone, or even through instant messaging (LaBillois, 2018).

The CGÎM has shared its expertise on BSLEs in countries like Morocco and Haiti, while also showing its potential to visiting schools from Canadian provinces such as New Brunswick and British Columbia (Bergeron, 2010). In June 2016, the director of the United Nations

Educational, Scientific and Cultural Organization – International Center for Technical and Vocational Education and Training (UNESCO-UNEVOC), Mr. Shyamal Majumdar, came all the way from Germany to visit and praise the CGÎM for its leadership in distance education (*Le Pharillon*, 2014). As of 2018, the CGÎM's expertise in the BSDM is helping meet various needs not only for the CGÎM campuses, but in collaboration with other CEGEPS as well. Such needs (Télé-Gaspé, 2018; see also Bergeron, 2010; Grégoire, 2017) are summarized in Table 1.

Table 1
The different needs met by the CGÎM's blended synchronous delivery mode

Needs	Program	Details
Meeting the needs of the local labor market	Nursing	Taught from the Gaspé campus to all three satellite campuses
Keeping open certain programs struggling with student numbers	Computer science	Taught from the Gaspé campus to all three satellite campuses
	Accounting and management	Taught from the Gaspé campus to the Carleton-sur-Mer and Magdalen islands campuses as well as the Cégep de Matane
	Medical archives	Taught from the Gaspé campus to the Cégep de Limoilou
Combining two small cohorts in only one group	Social sciences	Taught from the Carleton-sur-Mer campus to the Magdalen islands campus
Increasing the overall accessibility of a program struggling with student numbers	Aquaculture	Taught from the Grande-Rivière campus to multi-sites across the province
Accessing expertise from other CEGEPs	Emergency medical technique	Taught from the Cégep de Rimouski to all the CGÎM campuses
Increasing the overall accessibility of a course (local or from another CEGEP) with not enough student enrollment to open	Philosophy English as a second language (as of Fall 2018)	Taught from the Gaspé campus to multi-sites such as Abitibi, La Pocatière and Rivière-du-Loup
Accessing expertise from teachers whose program has been closed in one campus but not the other	Office systems technology	Taught from the Magdalen islands campus to the Gaspé campus (students in adventure tourism)
Exporting local expertise	Sustainable fishing	Taught from the Gaspé campus to a school in Senegal

Undeniably, distance education helps the CGÎM offer post-secondary education through a variety of programs that meet the needs of the local labor market, while trying to maintain a student population with increasingly conflicting schedules (work, family or illness) and a propensity to leave the area. Yet authors such as Bernard, Borokhovski, Wade, Wozney, Wallet, and Huang (2004) raise the question as to whether distance education offers students the same learning opportunities as F2F classroom instruction. In order to answer that question, we need to understand the province of Quebec's instructional model that the CGÎM has to abide by.

Prior to the 1993 education reform in the province of Quebec, a lot of emphasis was put on the teaching and cognitive presences; after the reform, the social presence and later the learner presence emerged as key factors in learning (Howe, 2017). In other words, the pedagogical approach shifted from "sage on the stage to guide on the side" (King, 1993). In the 1992-1993 annual report on the state and the needs of the education sector (Robillard, 1993), then education minister Lucienne Robillard called for a break from the traditional uniform pedagogical approach to teaching and learning; she criticized the 'one-size-fits-all' approach to education, stating that each learner has their own learning style and teachers must guide them in finding out the strategies that help them learn best. The report advocated for a more universal design for learning where teachers are not only content specialists but also facilitators who design group work activities and encourage learners to develop metacognitive strategies. Robillard highlighted the importance of fostering a cooperative rather than competitive learning environment. As the reform put forward the key role of the social presence, it echoed the social constructivist point of view of knowledge, which is constructed through interaction and collaboration (Powell & Kalina, 2009). This paradigm stresses that deep learning occurs as a result of meaningful interaction among individuals (Powell & Kalina, 2009).

Thus the 1993 reform advocated a competency-based approach to education that not only acknowledged the importance of teaching and learning, but also pointed to cooperation and metacognition as equally significant factors (Robillard, 1993). In the CoI framework, those are referred to as teaching, cognitive, social and learner presences (Garrison et al., 2000; see also Shea and Bidjerano, 2010). Since the literature claims that the quality of the educational experience is conceptualized at the intersecting centers of the CoI presences (Szeto, 2014) and that a strong CoI

is said to be essential for learning to occur (Wicks, Craft, Mason, Gritter, & Bolding, 2014), one may presume that students perceiving a strong CoI would have a more meaningful learning experience than those who perceive a low CoI. In the context of distance education, certain challenges posed by the type of delivery mode could affect students' perceptions of one or more of the CoI presences. Issues that can cause interference include feelings of isolation of online students, engaging with other students in blended synchronous courses, forming relationships with fellow classmates, dealing with technology issues and trying to effectively manage online and F2F students at the same time (Lakhal, Bateman, & Bédard, 2017). Therefore, while distance education offers a flexible learning alternative, a BSDM such as the one used at the CGÎM could affect F2F and online students' learning opportunities given the difference in the level of interaction among the CoI elements– namely, teachers, students, and course content.

The case of the nursing program at the CGÎM is an example of courses taught in the BSDM; the course 180-S13-GA has a total of 20 participants of which six attend F2F while 14 are online, the course 387-S03-GA has a total of 12 participants of which eight attend F2F while four are online, and the course 180-S63-GA has a total of 13 participants of which six attend F2F while seven are online. With such a large number of online participants, it is probable that the challenges cited in Lakhal et al. (2017) are experienced in those courses but we do not know for sure; as Szeto (2014) reveals, there is little research on the educational effects of the BSDM on online and F2F students' learning opportunities. This research is therefore an attempt to seek evidence as to whether in a BSDM, there is a difference in the perception of presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance.

CHAPTER TWO: CONCEPTUAL FRAMEWORK

While several different course delivery modes are available, the BSDM is the one that is examined in this study. Indeed, as more educational institutions, including the CGÎM, are turning to and/or have already adopted this type of delivery mode, it is important to ensure that it offers students learning opportunities equal to those offered in the traditional F2F format. This research begins with the premise that students who experience a strong CoI presence in a course can benefit from a superior learning opportunity (Wicks et al., 2014). In this chapter, we examine some of the underlying theoretical principles of the CoI and the BSDM.

1. COMMUNITY OF INQUIRY FRAMEWORK

The constructivist paradigm offers an answer to the questions as to whether students learn best individually, or through interaction with peers, teachers and course material. The constructivist theory of learning has been widely embraced in the educational field; it stems from the work of John Dewey (1929), Jean Piaget (1953) and Lev Vygotsky (1962). The constructivist philosophy claims that knowledge is created from experience. While Dewey (1929) originally put forward constructivist principles in the early 1900s, Piaget (1953) later developed the cognitive (or individual) constructivist paradigm in the 1950s. Vygotsky (1962) developed the socio-constructivist paradigm a few years later. While the cognitive constructivist approach claims that knowledge is mostly an individual process, the social constructivist theory argues that interaction with teachers and peers is necessary for knowledge to emerge. Both approaches value carefully planned inquiry, and contend that ideas are constructed from experience that is meaningful to the individual. In both theories, students need guidance and facilitation (Powell & Kalina, 2009).

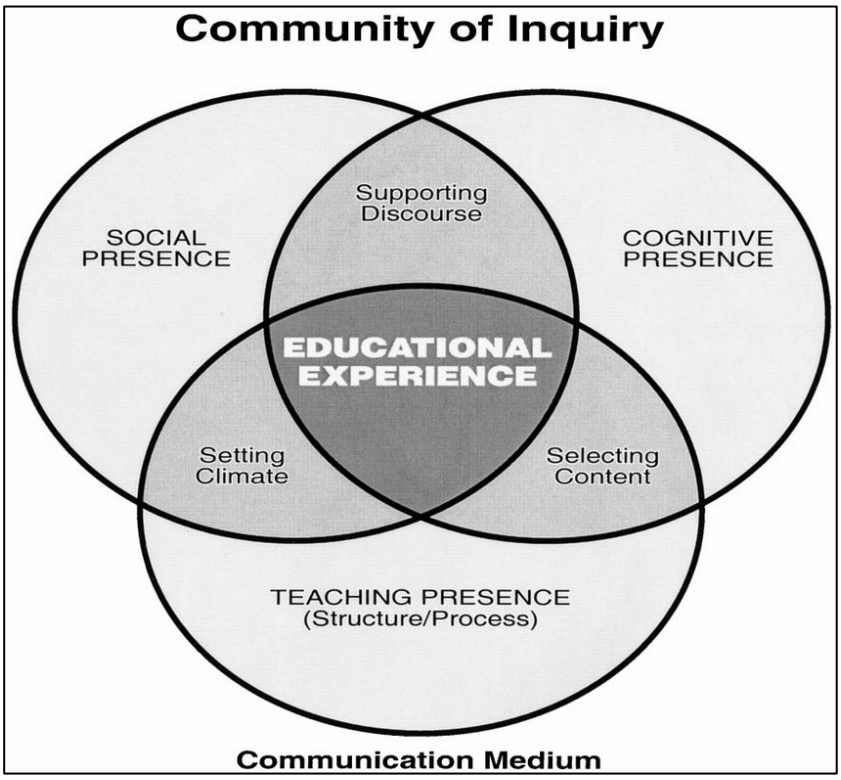
For his part, Piaget (1953), who originally developed the four-stage theory of child development (sensorimotor, preoperational, concrete operational, and formal operational), believed that ideas are constructed in individuals through a personal process. As humans receive new information, they need to construct their own knowledge in order to understand and use such information. This means that they are constantly in an adjustment process; for instance, as students are exposed to new ideas and concepts, they experience cognitive conflict, which leaves them in a state of disequilibrium. In their quest to seek balance (or equilibration), they try to make sense of

the new information and adjust their schema (or thinking) in order to resolve the cognitive conflict. Ultimately, they either assimilate by adding new information to their existing schema, or they accommodate by changing their schema. Piaget's theory highlights that the process of learning is individual rather than social.

On the other hand, Vygotsky (1962) claimed that knowledge is socially constructed; therefore, a student will construct knowledge though interaction with their peers and teacher. In what Vygotsky (1962) called the zone of proximal development (ZPD), a learner needs help in order to learn a concept. Learning is easier when others are involved, and once a learner achieves the goal of a learning activity, their ZPD expands and they are ready to acquire more skills. Vygotsky (1962) also contended that people learn better when they have other people's support. Vygotsky's concept of scaffolding reveals that a support system can help solve problems; then, internalization occurs. For Vygotsky (1962), cooperative learning through social interaction is necessary in order to reach deeper understanding. In their study on effective pedagogical methods in a hybrid course delivery mode, Lemay and Mottet (2009) pointed to socio-constructivism as an effective pedagogical approach. Additionally, Jonassen, Howland, Marra & Crismond (2008) state that socio-constructivist learning must be active (experiment with concepts and observe what happens), constructive (add new knowledge to prior one), intentional (set clear personal objectives and use metacognitive tools are used to track progress), authentic (offer multiple dimensions and contexts), and cooperative (encourage peer collaboration to build knowledge and produce common final product). Lemay and Mottet (2009) claim such a socio-constructivist approach is applicable to a non-F2F format through various pedagogical strategies including role playing, group discussions, projects, case studies and simulations.

In a way, Piaget (1953)'s view of cognitive constructivism points to what the CoI framework would refer to as the teaching, cognitive and learner presences as the driving forces of effective learning, while Vygotsky (1962)'s theory of social constructivism puts the onus on what is called the social presence in the CoI framework. Garrison et al. (2000) built on John Dewey (1929)'s genesis of the CoI framework to develop their own which includes the teaching, social and cognitive presences; Shea and Bidjerano (2010) later added the learner presence to the CoI original model. Developing a sense of community is correlated with perceived success, and it

needs to be built and fostered in a context of distance education; a sense of community is developed based on a shared purpose by all participants (Garrison & Arbaugh, 2007). Szeto (2014) claims that the quality of one's educational experience is found at the intersecting centers of the presences of the CoI framework; as Figure 1 illustrates, at the heart of those overlapping and interdependent presences is a deep and meaningful educational experience.



Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, *10*(3), 157–172. https://doi.org/10.1016/j.iheduc.2007.04.001

Figure 1 Community of Inquiry framework

1.1 Teaching presence

Still today, many instructors see themselves as the "sage on stage", teaching in line with what Paulo Freire called the "banking model of education" (1970, p. 72). In the CoI framework, the teaching presence is anything but that. In fact, teachers are designers and facilitators who encourage cognitive and social processes in order to accomplish valuable learning outcomes. Instructors design and organize their course structure, facilitate dialogue, and direct instruction

through dialogue; interaction and discourse are key in higher-order learning, and they are to be fostered by the teaching presence. The teaching presence is felt when the instructor reviews or comments on students' responses, keeps discussions moving efficiently, draws out inactive students and adjusts activities. Other examples of a strong teaching presence include scaffolding learner knowledge to raise to new cognitive levels, using a variety of assessment techniques, providing explanatory feedback, diagnosing misconceptions, making links among student ideas, and suggesting explicit learning strategies (Garrison & Arbaugh, 2007).

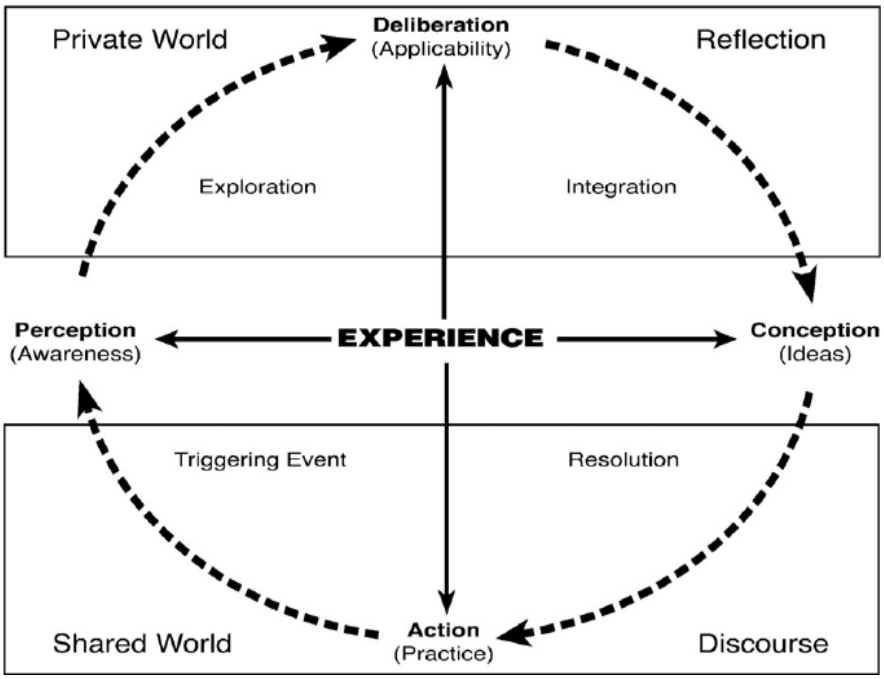
1.2 Social presence

The social presence is the most studied element of the CoI framework, especially in distance education. Akyol and Garrison (2011) define it as "the ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities." (p. 34) There is a strong relationship between the level of social presence and the learning outcomes; activities that cultivate the social presence will increase students' overall satisfaction with their learning experience. By developing inter-personal relationships, communicating purposefully in a trusting environment, and identifying with the community, students develop their sense of social presence. The sense of community is usually based on the common purposes and inquiry that are shared by the members of the group. Indicators of a strong social presence include students displaying group cohesion, collaboration, open communication as well as affective expression, and sharing their personal emotions. The social presence requires intellectual focus and respect; relationships need to be purposeful, and the progression in community building is correlated with students' intensity of engagement (Garrison & Arbaugh, 2007).

1.3 Cognitive presence

The extent to which learners are able to connect and confirm meaning reveals the cognitive presence; it is done through sustained reflection and substantive discourse. As illustrated in Figure 2, the cognitive presence is operationalized in Garrison et al. (2000)'s practical inquiry model. It requires a four-phase process that includes a triggering event, exploration, integration, and resolution. In the triggering event phase, a problem is identified for further inquiry, while critical

reflection and discourse take place in the exploration phase. Meaning is constructed in the integration phase (the teacher's presence is especially important at that stage) and new knowledge is applied in the resolution phase (Garrison & Arbaugh, 2007).



Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education, 10*(3), 157–172. https://doi.org/10.1016/j.iheduc.2007.04.001

Figure 2 Practical Inquiry Model

1.4 Learner presence

Shea and Bidjerano (2012) point out that optimal learning and educational outcomes are predicted by the interaction between the quality of a learning environment (instructional methods and social milieu for instance) and individual traits including learning style, personality, motivation, effort, self-efficacy, metacognition and self-regulation. Those personal-level characteristics are elements of the learner presence, which plays an important role in students' perception of their cognitive engagement and gains. Cronbach and Snow (1997)'s aptitude-treatment interaction framework (ATI), which claims that "one size does *not* fit all", reveals that a combination of instructional strategies and individual attributes of learners help predict one's level of achievement of education outcomes; individual-level determinants such as self-regulation and

self-efficacy would therefore help explain different educational outcomes. While Garrison et al. (2000)'s original three CoI presences (teaching, cognitive and social) are commonly cited in the literature (Traver et al., 2014; see also Wicks et al., 2015; Choy & Quek, 2016), Shea and Bidjerano (2012)'s fourth CoI presence in their revised CoI framework, the learner presence, is less frequently cited. Yet it is included in the conceptual framework given the relevance and importance of self-regulated learning (SRL) as well as students' sense of self-efficacy. Learners need to develop metacognitive skills to better interact with the social, cognitive and teaching CoI presences; as Powell and Kalina (2009) write, "Students have to understand themselves […] before they can start learning the curriculum" (p. 245).

Several socio-cognitive models of SRL agree that self-regulation is a recurrent and cyclical process through which learners plan, set goals, execute actions, monitor their progress, self-reflect and self-assess. Additionally, they structure their personal learning environment in ways that are conducive to learning, they choose appropriate learning strategies and constantly evaluate which goals have been achieved. As learners cultivate self-knowledge and analyze the complexity of a learning task, they adjust their personal actions or goals to achieve desired outcomes amid changing environmental conditions (Zimmerman, 2001).

Self-regulation and use of effective learning strategies are contingent on positive self-efficacy beliefs. Self-efficacy is a subjective judgement of one's ability to achieve a specific goal or execute certain behaviors. Robbins et al. (2004) reveal that self-efficacy is the best predictor of college grade point average (GPA) and college persistence. Winne (2005) points out that one's system of epistemological and motivational beliefs can lead a learner to regard failure either as a fixed individual trait, or as a controllable condition and a learning opportunity. In the CoI framework, self-efficacy can act as a mediator of the relationship between teaching, cognitive and social presences; inversely, the presences can also serve as mechanisms for supporting self-efficacy.

Therefore, adopting a social constructivist approach in designing and delivering a course, and fostering a strong CoI can encourage both deep and meaningful learning. While online courses including the BSDM such as the one offered at the CGÎM offer more flexibility than the traditional and enriched F2F courses, they also help meet different needs.

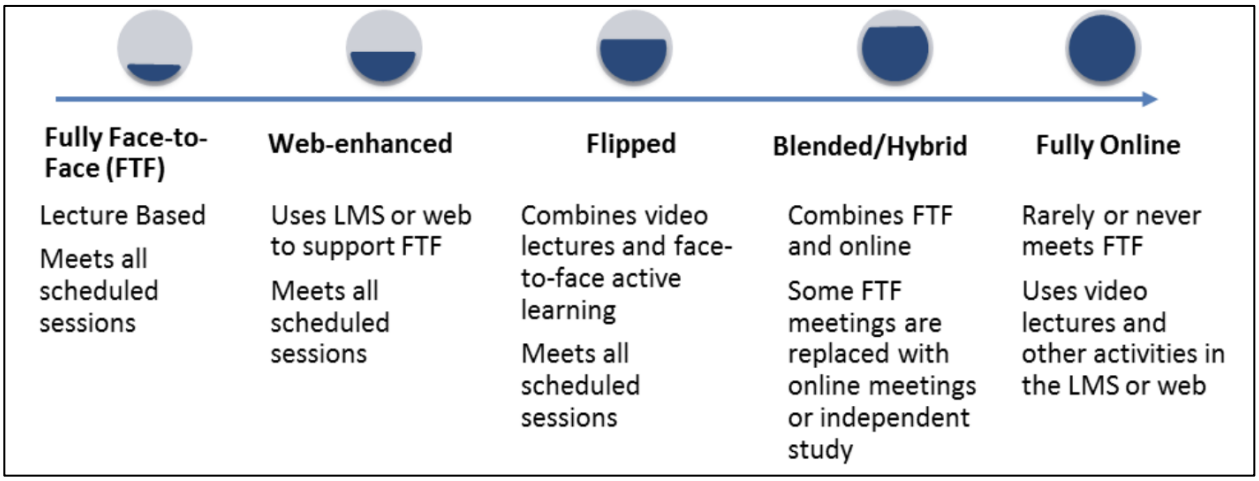
2. BLENDED SYNCHRONOUS DELIVERY MODE

On the course delivery mode continuum (see Figure 3), various options are available between, on the one hand, exclusively F2F courses and, one the other hand, entirely online courses, to allow people to access education contingent on location and personal needs. Each course delivery mode has its share of advantages and challenges.

2.1 Course delivery modes

The traditional F2F format supplies teaching and learning activities where a teacher is teaching students in real time, in a common location such as a classroom for instance. On the other hand, the variety of distance education formats entails that part of or all teaching and learning activities take place outside the physical realm of a classroom. Peraya and Deschryver (2003) claim that distance education can free students from the time and space constraints since there is a clear break between teaching and learning activities (Lakhal, Bilodeau, & Harvey, 2015). Kyei-Blankson and Godwyll (2010) reveal that distance courses are as pedagogically efficient as those delivered in the traditional F2F format. In an often-cited meta-analysis, Bernard et al. (2004) have concluded that students enrolled in an online course are as satisfied and perform as well academically as students taking a F2F course. Online courses can give students access to a program not offered on their campus, as well as combine several small groups from different campuses into one bigger group (Bergeron, 2014). For example, teleteaching has helped make more programs available across the Gaspé peninsula, while videoconferencing has offered students the flexibility to receive education from home or from work without having to commute (Bergeron, 2014). Videoconferencing is an example of BSDMs, which cost little, require the same classroom space, yet can help increase enrolment numbers while diversifying the student population (Bower, Dalgarno, Kennedy, Lee, & Kenney, 2015). The *HyFlex* (Hybrid-Flexible) model is another distance education format which offers access to people living in a remote area and allows students to choose to follow the course online or F2F depending on their interests or academic skills (Educause, 2010); it is a flexible mode of participation for students with a busy work schedule or family responsibilities (Beatty, 2007). Figure 3 depicts the continuum of course delivery modes, as defined by the Instructional Development Services (IDS). IDS is a branch of the California State

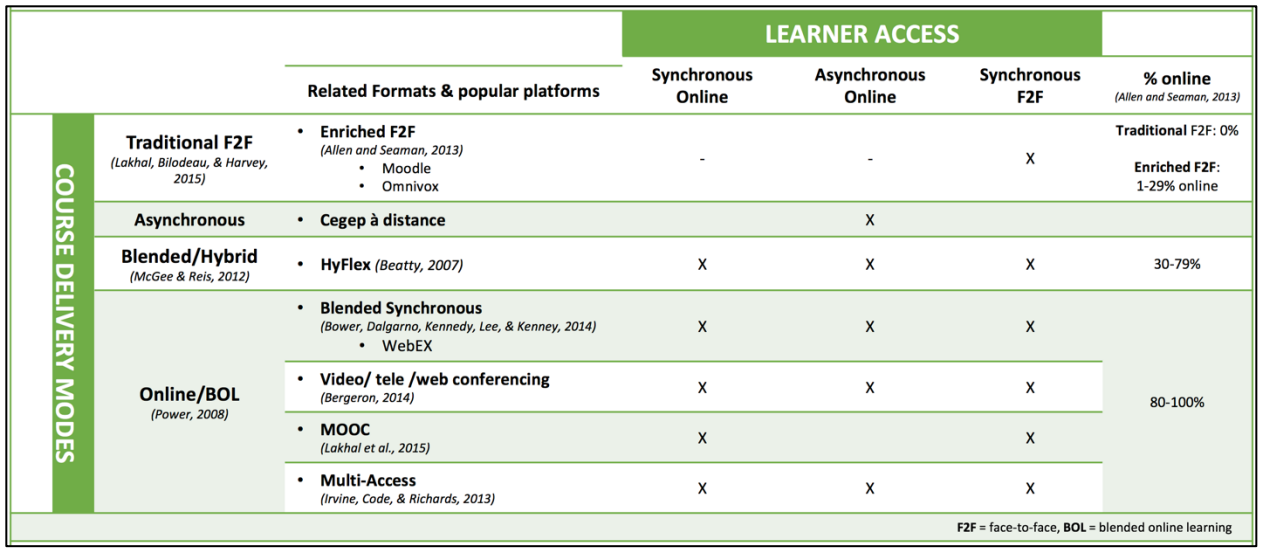
University in San Marcos (CSUSM) that offers technological support in course design and instruction (CSUSM, n.d.).



CSUSM. (n.d.). Delivery Modes. Retrieved from https://www.csusm.edu/ids/course-design-andinstruction/delivery-modes.html

Figure 3 Continuum of Course Delivery Modes.

To name only a few, the terms blended, online, synchronous, asynchronous, and hybrid are used widely in the literature on distance education, and each format caters to different needs. It is important to note that there is no universal typology yet, which means that the terminology found hitherto in the literature is not standardized. Figure 4 was put together as a tentative summary in an attempt to clarify the terms used in this section. Each course format is further explained as well.



		Related Formats & popular platforms	LEARNER ACCESS: Synchronous Online	Asynchronous Online	Synchronous F2F	% online (Allen and Seaman, 2013)
COURSE DELIVERY MODES	Traditional F2F (Lakhal, Bilodeau, & Harvey, 2015)	• Enriched F2F (Allen and Seaman, 2013) • Moodle • Omnivox	-	-	X	Traditional F2F: 0% Enriched F2F: 1-29% online
	Asynchronous	• Cegep à distance		X		
	Blended/Hybrid (McGee & Reis, 2012)	• HyFlex (Beatty, 2007)	X	X	X	30-79%
	Online/BOL (Power, 2008)	• Blended Synchronous (Bower, Dalgarno, Kennedy, Lee, & Kenney, 2014) • WebEX	X	X	X	80-100%
		• Video/ tele /web conferencing (Bergeron, 2014)	X	X	X	
		• MOOC (Lakhal et al., 2015)	X		X	
		• Multi-Access (Irvine, Code, & Richards, 2013)	X	X	X	

F2F = face-to-face, BOL = blended online learning

Figure 4 Course Delivery Modes and Learner Access

2.1.2 Face-to-face courses

On the one end of the course format continuum is the F2F course delivery mode. Traditionally, students and teachers were physically present in real-time in the same physical location (a classroom, for instance) for the entire duration of a course (Lakhal et al., 2015). Over time, the traditional F2F experience was enhanced thanks to several technological tools including emails and online platforms such as Moodle and Omnivox. In this enriched F2F course delivery mode, the learning experience is supplemented with online resources and activities such as access to online exercises, videos, documents, chat rooms, and so forth.

2.1.3 Distance courses

Beyond the conventional F2F teaching exists a multitude of course delivery modes. Cunningham (2014) makes the distinction between distance students, who are geographically removed from the location where a course is taught, and online students, who can be very close to the location but prefer the flexibility of attending online offers. Kim (2008) describes distance courses as teaching and learning situations in which technological devices as well as synchronous and asynchronous communication tools ensure bidirectional communication between both teachers and students, and students with their classmates. Interestingly, Kim's doctoral research was written in French and we can note a discrepancy between the Francophone and Anglophone

terminologies. In French, the expression *Formation à Distance* (FAD) is widely used and online courses are referred to as distance courses; in English, the term 'online' refers to solely asynchronous courses while the expression 'blended online' refers to a mix of synchronous and asynchronous courses. Allen and Seaman (2013) divide courses into three main categories, depending on the percentage of teaching and learning activities done online: enriched F2F courses (1-29% online), hybrid or blended courses (30-79% online), and synchronous/asynchronous online courses (80-100% online). In the case of enriched F2F courses, the teacher may complement their teaching with internet pages or platforms such as Moodle or Omnivox to share course documents and encourage student engagement outside of class via online discussion forums. This type of course delivery mode is different from online and hybrid (or blended) formats in that the online component is used for class activities rather than making the teaching accessible.

2.1.4 Asynchronous Online courses

According to Conklina et al. (2017), the enrollment in online courses in the United States has grown from 1.2 million in 2002 to 7.1 million in 2012. In online courses, the teaching and learning activities can occur in real time (synchronous) or not (asynchronous); however, this is not the most common definition of online courses. According to Power (2008), all activities are asynchronous in online courses and when synchronous ones are integrated, it becomes a blended online format. A completely asynchronous course format is at the other end of the course format spectrum, where the interactions among teachers and students are entirely online. The example of Cégep a Distance illustrates this well; created in 1991 by the Collège de Rosemont to fulfill a ministerial mandate, Cégep à Distance plays a complementary role to the public and private CEGEPs. Through Cégep à Distance, students complete courses at their own pace, accompanied by a tutor, in a completely asynchronous mode. Lakhal et al. (2015) give massive open online courses (MOOC) as another example of an emerging asynchronous online course format. Therefore, in the asynchronous online format, students can carry out learning activities when they wish to do so. The activities can be done individually or collaboratively, through technological tools such as email, discussion forums, chat rooms, and so forth (Roy, 2011). Majeski, Stover, & Ronch (2016) define asynchronous online learning (OL) as a type of learning taking place entirely in an online classroom without a real-time component. Announcements, discussion board forums

and course material can be used to facilitate the achievement of course learning objectives. While asynchronous OL is a convenient and common solution, it has limitations such as a lack of social presence, impersonal feel, delayed feedback, low participation rates, and low motivation (Wang, Quek & Hu, 2017).

2.1.5 Synchronous courses

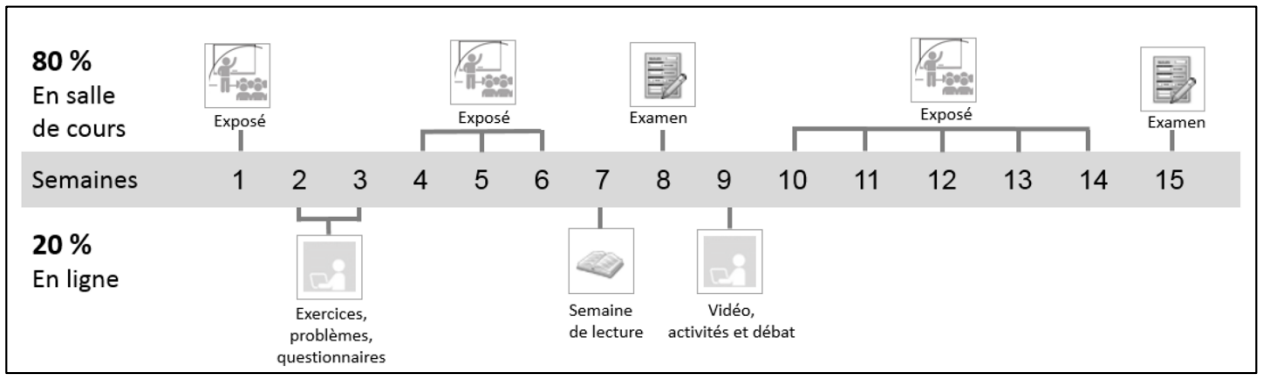
On the other hand, several technological tools such as videoconferencing can make the synchronous format possible. Videoconferencing is the closest to modeling an actual physical classroom, and it allows real-time communication between the teacher, students and their classmates (Lakhal, et al., 2015). Bergeron (2014) refers to videoconferencing as teleteaching and she cites the example of inter-institutional synchronous distance learning, where educational activities are jointly offered by two or more institutions. A similar format, the inter-campus synchronous distance learning also allows programs not available at a different campus of the same institution to be offered on one or more campuses. This format also makes it possible to combine into one large group several small groups from different campuses enrolled in the same program, while still taking their general education courses on their respective campuses. The synchronous distance learning course delivery mode in a different institution is another example of online course format cited in Bergeron (2014). In this case, when a program from another CEGEP closes due to low student enrollment, it can still be offered to students by following it online from another CEGEP. The synchronous format can also be in the form of what Bergeron (2014) calls teleconferencing, where two or more computers are connected via a platform such as VIA or WebEX. In the latter case, additional tools include the use of a web camera, instant messaging and a virtual whiteboard (Lakhal, Khechine, & Pascot, 2013). Finally, the regular and online synchronous course delivery modes can be enhanced with asynchronous activities; such a course format is known as blended or hybrid.

2.1.6 Hybrid (or blended) courses

The definition of blended learning has evolved throughout time (Lakhal & Meyer, 2018). According to Kim (2008), hybrid (or blended) courses combine the advantages of the traditional F2F course format (such as the interactions between teacher and students, and students with their

classmates) with the flexibility and benefits of the online format. Kim (2008) also identifies two potential online and F2F associations. In the first case, online activities are meant to prepare students for a F2F class through, for instance, research of a particular concept or understanding of certain parts of the material; the flipped classroom is one example of this emerging model. In the second case, the activities done in class serve as a threshold for the subsequent online activities; therefore, the teacher can explain in class how to do the online activities, or do an icebreaker so everyone gets to know each other in class before carrying out work online.

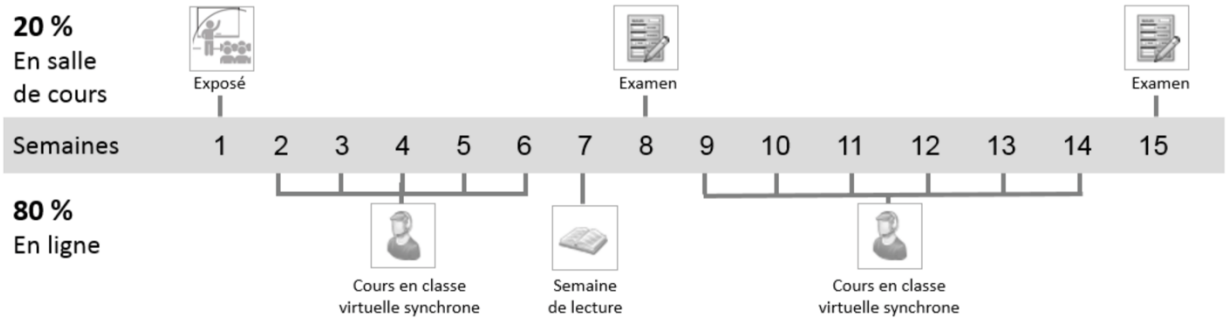
Université Laval (2017) suggests different possible scenarios for a 15-week course in a blended format. The four scenarios range from simple and limited pedagogical strategies (scenario A) to lengthier and more elaborate ones (scenario D). The different scenarios give teachers the flexibility to offer the same course in a different approach. As illustrated in Figure 5, in scenario A, 80% of the pedagogical activities takes place F2F, while 20% occurs online and includes exercises, problems, questionnaires, videos and activities.



Université Laval. (2017). Programme d'appui à l'innovation pédagogique 2017-2018 : cours à distance, cours hybrides et cours comodaux. Retrieved from https://www.enseigner.ulaval.ca/system/files/programme_appui_fad-fhyb-fcom_2017-2018.pdf

Figure 5 Scénario A – Hybridation de Scénario Ciblés

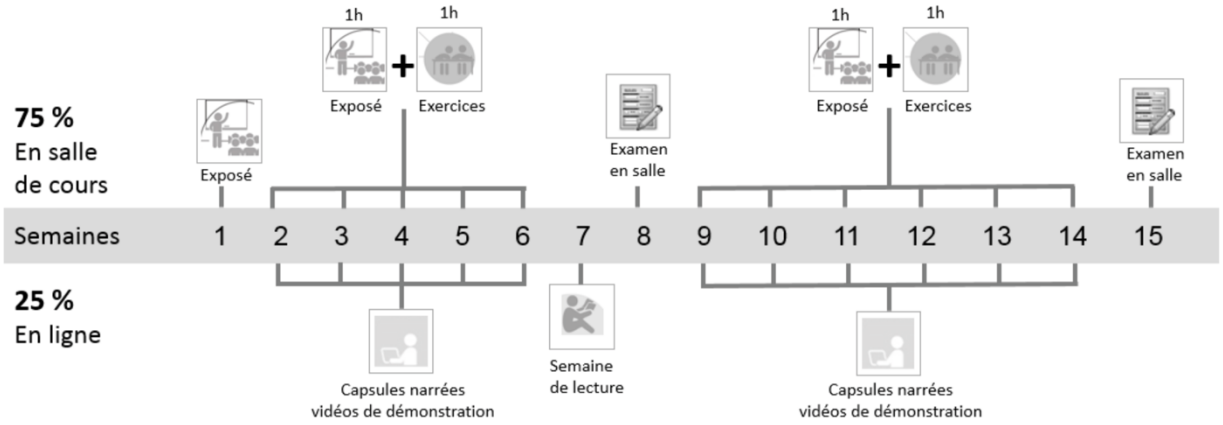
In scenario B, illustrated in Figure 6, only 20% of the course is conducted F2F for a lecture and exams whereas the remaining 80% is done in an online, virtual synchronous format.



Université Laval. (2017). Programme d'appui à l'innovation pédagogique 2017-2018 : cours à distance, cours hybrides et cours comodaux. Retrieved from https://www.enseigner.ulaval.ca/system/files/programme_appui_fad-fhyb-fcom_2017-2018.pdf

Figure 6 Scénario B – Cours Hybride Synchrone

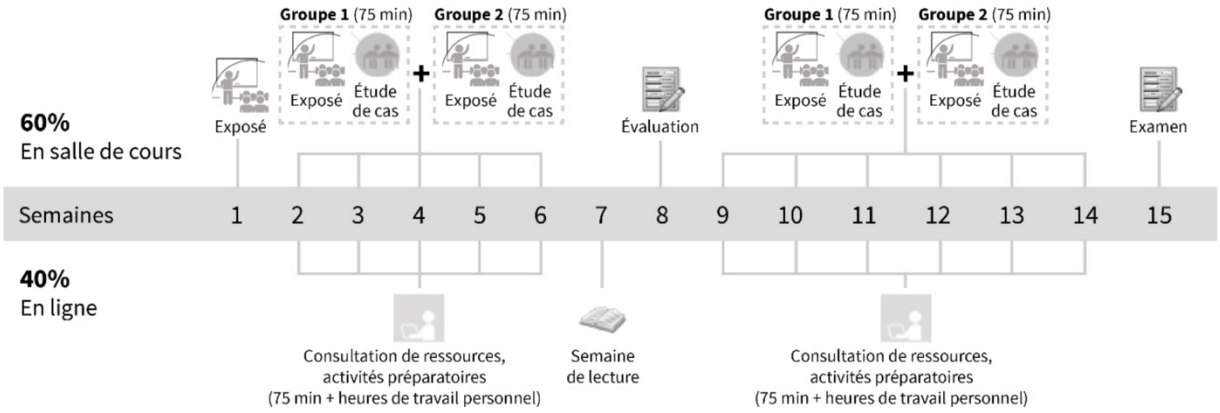
Scenario C, similar to the flipped classroom model, uses 25% of class time online for tutorial videos while the remaining 75% done in class includes lectures, exercises and evaluation. This model is illustrated in Figure 7.



Université Laval. (2017). Programme d'appui à l'innovation pédagogique 2017-2018 : cours à distance, cours hybrides et cours comodaux. Retrieved from https://www.enseigner.ulaval.ca/system/files/programme_appui_fad-fhyb-fcom_2017-2018.pdf

Figure 7 Scénario C – Alternance d'Activités en Ligne et en Salle de Cours

Finally, as illustrated in Figure 8, Scenario D adopts more of a group work approach, where 40% of the learning activities is conducted online through preparatory activities and the remaining 60% in class is for lectures, case studies and evaluations.



Université Laval. (2017). Programme d'appui à l'innovation pédagogique 2017-2018 : cours à distance, cours hybrides et cours comodaux. Retrieved from https://www.enseigner.ulaval.ca/system/files/programme_appui_fad-fhyb-fcom_2017-2018.pdf

Figure 8 Scénario D – Fractionnement d'un Grand Groupe

Desrosiers (2013) reveals that many Cégep teachers teach in a blended format to cater to the increasingly diverse student population, which includes students living far from the school campus, dealing with a very demanding work schedule or family responsibilities, and possessing a variety of unique background, skills, needs, interests, and goals. Blended courses can take on different forms, from a focus on F2F activities complemented with online activities, to the opposite (Lakhal & Meyer, 2018).

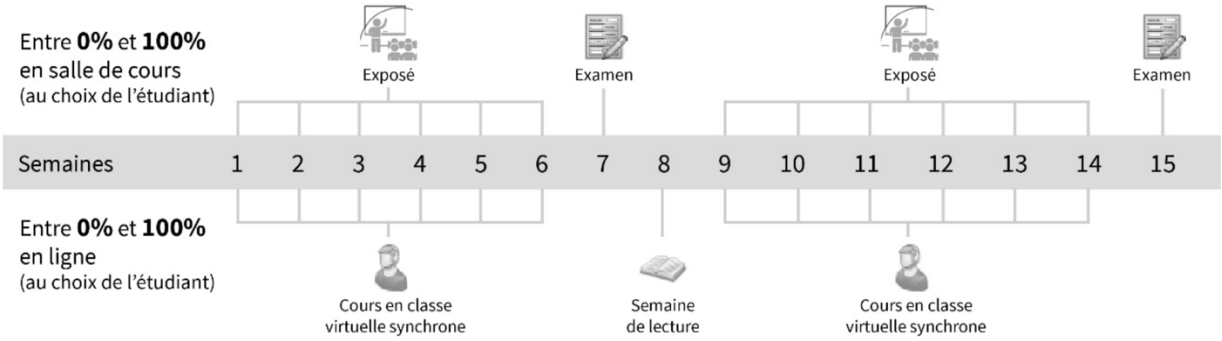
2.1.7 Multiaccess courses

Lakhal et al. (2015) cite a multiaccess learning framework as a personalized learning experience allowing both F2F and online contexts to engage as part of the same course. This course format is also referred to as "choice learning" (Lakhal & Meyer, 2018). In their multi-access framework, Irvine et al. (2013) propose a four-tier access model; in the first tier, the access is F2F,

in the second it is synchronous online, in the third it is asynchronous online, and in the fourth it is multi-access (open learning).

2.1.8 HyFlex courses

The *HyFlex* (hybrid flexible) model developed by Beatty (2013) offers students the opportunity to choose between following a particular class online or F2F. This model lets students decide to follow all classes either only F2F or online, or to alternate depending on their needs and availabilities. Figure 9 offers a visual representation of this course format.



Université Laval. (2017). Programme d'appui à l'innovation pédagogique 2017-2018 : cours à distance, cours hybrides et cours comodaux. Retrieved from https://www.enseigner.ulaval.ca/system/files/programme_appui_fad-fhyb-fcom_2017-2018.pdf

Figure 9 Cours Comodal

From a pedagogical point of view, the *HyFlex* model offers teachers the possibility to explore different approaches, thus catering to the different learning styles. It also gives students a sense of control over their learning, which can foster their motivation and participation (Abdelmalak, 2014).

2.1.9 Blended synchronous course

Among several different labels attached to the term blended synchronous learning, Bower et al. (2015) define it as a learning method that enables online students to participate in classroom learning activities simultaneously via computer-mediated communication technology such as

video conferencing. For their part, Conklina et al. (2017) talk of BSLEs that combine two or more learning settings and through which participants are allowed to attend class F2F or via a synchronous virtual connection (Cisco WebEX or Adobe Connect for instance). This innovative setting offers a flexible virtual environment where participants can interact in real time with their instructor and F2F classmates. Students can chat and collaborate with all students, both publicly and privately, which makes for a cohesive learning environment.

The case of the MTP discussed in Lakhal et al. (2017) is an example of BSDM; F2F and online students follow together a course in real time while being required to take part in certain asynchronous online classes and activities. The BSDM also allows people to connect from different locations, like in the case of John Abbott College working with the CGÎM on a chemistry laboratory project (the online collaborative laboratory-reporting environment, OCLaRE). This online platform developed by three teachers (Petra Turkewitsch at the CGÎM, and Michael Dugdale and Murray Bronet at John Abbott College) is aimed at improving laboratory reporting by offering students tools to focus on critical analysis rather than trivial aspects of lab-reporting such as format or section length. As students from both CEGEPS collaborate online to write up laboratory reports, they also develop a community of practice (SALTISE Annual Conference, 2017).

2.2 Benefits of the blended synchronous course delivery mode

2.2.1 Flexibility and access

Students living far from their school campus, dealing with disabilities, demanding work and family schedules, or coming from a different background require more flexibility in order to access educational opportunities (Abdelmalak, 2014). This need for different attendance patterns and enrollment modes is echoed by several authors, including Conklina et al., (2017), Wang et al. (2017), Wicks et al. (2014), and Bower et al. (2015), who also point out that a BSDM increases access to education by being more inclusive of geographically isolated people. Lakhal et al. (2017) note that a BSDM offers flexibility in course attendance, thus responding to students' scheduling needs and providing them with greater educational access. They also note that it lowers feelings

of isolation of online students by allowing them to have an equal opportunity to interact with classmates and teachers in real time.

2.2.2 Quality of learning experience

According to Lakhal et al. (2017), a BSDM allows faculty to cater to students' learning preferences and styles by using a variety of pedagogical strategies that enhance the teaching and learning environment. McGee and Reis (2012) note that when a blended course is designed from a learner's perspective, success and retention rates are increased since students are given more independence and autonomy, they are encouraged to self-monitor, while the pedagogical strategies cater to diverse abilities and learning styles. Different instruction strategies help do this, whether they are process-driven (concept maps, peer review, field work, tutorials), product-oriented (podcasts, essays, case briefs) or project-oriented (debates, case studies, blogs, group reports). As the BSLE can welcome more participants, both online and F2F students can benefit from input from more people (Cunningham, 2014). Additionally, a BSDM echoes students' daily lives and allows them to use technology for learning purposes. Choy and Quek (2016) note that blended learning is preferable over a fully online course format since the blended course delivery mode allows students to have more control over their learning experience. However, the increased responsibility of the OL format can be a challenge for some students, especially if they are new. Bower, Kenney, Dalgarno, Lee, & Kennedy (2014) mention a heightened need to prepare remote students for a blended course delivery mode in terms of their expectations, and technological skills and setup.

2.2.3 Learning outcomes enhancement

A BSDM can increase the quality of learning for students both online and F2F, leading to improved course and program completion rates (Lakhal et al., 2017). This type of delivery mode also allows faculty to support students in the same way in achieving intended learning outcomes. Choy and Quek (2016) cite a meta-analysis conducted by Means, Toyama, Murphy, Bakia, and Jones (2009) which reveals that students enrolled in a blended course format performed better than their peers enrolled in either fully F2F or entirely online courses. This is echoed in Bower et al. (2014) who mention better course and program completion rates for students who partake in

synchronous interactions with their teachers and peers. Szeto (2014) also found that both online and F2F participants achieved similar levels of attainment in the learning process. Bower et al. (2015) cite a 2014 study of a course delivered in a blended synchronous mode conducted by Butz, Stupnisky, Peterson, and Majerus which reveals that apart from a higher sense of relatedness by on-campus students, both F2F and online students experienced the same levels of motivation, satisfaction and perceived success. Similarly, in a study by Lopez-Perez, Perez-Lopez, & Rodriguez-Ariza (2011) cited in Wicks et al. (2014), students enrolled in a blended learning course format had lower dropout rates and higher grades than the F2F students enrolled in the same course the previous year. However, they note that factors such as students' age, background, class attendance, and the type blended learning activities offered can also account for the different findings.

2.2.4 Institutional benefits

The actual and potential institutional benefits of the BSDM are several. Lakhal et al. (2017) point out that a BSDM could be a solution to limited classroom space, especially in higher education, and that it is suitable as well for less structured courses. Wang et al. (2017) note that it is easy to set up, flexible, affordable, and can help ensure the continuity of instruction (in the case of a pandemic for instance). The BSDM also increases the teacher-student ratio while decreasing costs related to travel and time. This format prevents teachers from having to repeat a lesson (in the case of absent students for example) and saves time for teaching preparation and research. Bower et al. (2015) also list institutional benefits such as an increase in enrollment numbers at little cost, with the same class space and added diversity in the student population. However, Power (2008) warns that there must be a balance between the aims of the administration, faculty limits and learner needs.

2.3 Challenges of the blended synchronous course delivery mode

2.3.1 Institutional support

At the institutional level, the BSDM comes with high cost of connectivity and technological issues (Bower et al., 2015). Ideally, instructors need professional development on how to use this type of technology (Conklina et al., 2017). It is important that institutional support helps ensure the equipment is functional and reliable, almost invisible to the point that participants practically feel they are in the same room. Wang et al. (2017) deplore the fact that such support is often lacking, thus hindering teachers' preparation and course design time. Lakhal et al. (2017) point out the lack of institutional recognition for the amount of work that needs to be put into the design of such course format; professional development and training should be provided. When teachers do not feel institutional support, they are less likely to be willing to take risks. As Conklina et al. (2017) write, to this day few educators are well versed in teaching in the blended synchronous format; they must first understand what it is, find the best organizational structures to implement their lesson, and use effective class management strategies that facilitate learning and interaction. This will lead to a more cohesive class and reduce the cognitive and affective loads on the instructor.

2.3.2 Additional workload

A non-F2F format impacts teachers' pedagogical approach as they need to re-design their courses, also known as the *course-and-a-half* phenomenon (McGee & Reis, 2012). As Lakhal et al. (2017) note, the BSDM requires much more physical and social preparation than courses in a single mode. Wang et al. (2017) also note that some activities must be re-examined for online students to participate more easily. An instructor in Szeto and Cheng's study (2014) reflected that when he taught a traditional F2F course, he was simply passing information whereas in a BSLE, he had no choice but to adapt a more interactive approach. Cunningham (2014) notes that it can often be difficult to engage online learners; since they choose to attend from a distance because of work or family obligations, they have little time for their studies. In a BSLE, a considerably higher cognitive load is required from the teacher in terms of preparation, organization and multitasking (Bower et al., 2014). As the instructor performs multiple roles (such as content presenter and

facilitator), divides their attention between both locations, and is required to be technologically competent, the cognitive load can turn into an overload (Wang et al., 2017).

2.3.3 Teaching presence

Wicks et al. (2014) point out that, although the BCDM displays several advantages, students also need to be self-directed learners – which is not always the case at the college level. To reach the learning outcomes, the teaching presence plays a more central role than the other presences. Szeto and Cheng (2014) found in their study that the instructor's role is even more important in a BSLE; while F2F students perceive closer intimacy with and turn to their peers for clarification questions, online participants feel this with their instructor. The instructor's attitude can even make up for online participants feeling unwelcome by their F2F classmates (Cunningham, 2014). In their study of thirty participants from a variety of programs at Southeastern University in the United States, Conklina et al. (2017) found that the teaching presence scored the lowest of all CoI presences; the online participants deplored the fact that they had less opportunities to build a relationship with their teacher, while both online and F2F students felts their instructor had failed to draw the class together and create a sense of unity. The participants also sensed that the instructor was trying to overcompensate by dedicating more time to online students. In a qualitative study of 28 first year students enrolled in an engineering course, Szeto (2014) found that while it was helpful for online students when the instructor spoke in a clear tone, at a slow pace, with some repetition, F2F participants were quickly bored.

The management of online and F2F students at the same time is another challenge of the BSDM. While participants can experience high levels of social presence, such presence needs to be encouraged and fostered by the instructor. However, this delivery mode can be somewhat of an imposition for F2F students who need time to adjust, and who may feel they have to compromise as the teacher focuses more on students at a distance and troubleshooting. Some F2F students can even feel neglected (Conklina et al., 2017). Inversely, online students may feel uncomfortable as they can become the center of attention (Bower et al., 2015). Conklina et al. (2017) say the instructor must be aware of the communications; they should give equal attention to both online and F2F students, attend to students in both spaces, and purposefully pause, thus giving an equal chance for online students to participate. The participants in their study noted unequal distribution

of attention from their instructor. Similarly, Szeto (2014) found that F2F students felt the instructor paid too much attention to the online participants. Online participants in Szeto and Cheng (2014)'s study found this made them feel as if they were under the spotlight. In their study of the BSLE with full-time school teachers in a graduate course of teacher training at the Institute of Singapore, Wang et al. (2014) found that balancing attention paid to online and F2F students is an extra challenge.

2.3.4 Course design

When designing teaching and learning activities in any course format, technology has to be a means to pedagogical ends. In the case of a hybrid (or blended) course format such as Beatty's *HyFlex* model, McGee and Reis (2012) highlight the importance of re-designing a course rather than trying to offer a direct translation of a classroom course into a blended design. Instead of concentrating on the potential of the technology, the focus should be on pedagogical principles; define course objectives, then design effective assessments and course activities. Technology should support learning and be aligned with learning outcomes. Students shouldn't be distracted or consumed with learning a new technology; when technology is at odds with or superfluous to instructional outcomes, student motivation tends to decrease.

Teachers also need to design active learning activities that are connected with learning outcomes, vary their pedagogical approaches (scaffolding, modelling new skills, designing authentic tasks), and alternate their grouping strategies (F2F only, F2F – online students, online students only). Limiting the number of students per section, allowing backchannel communication, designating F2F students to monitor the chat and hiring (more) teaching assistants would also be helpful. F2F students could also act as facilitators for online students (in the chat room for instance); however, in her study Cunningham (2014) notes that F2F students can be reluctant to do this. Instructors should also welcome remote participants, regularly encourage student contribution, balance attention between online and F2F participants, anticipate what could come up, make information available ahead to avoid repetition for remote students, and make multiple communication channels available – the latter requiring teachers to be even more composed, confident and flexible as they need to divide their focus (Bower et al., 2015).

2.3.5 Technologies

While distance courses inevitably involve the use of technology, McGee and Reis (2012) say that sufficient understanding of the technology used in the course, coupled with clear and accessible technical support are key in decreasing frustration so that the focus can be on the pedagogy. Bower et al. (2015) echo this when they write about the importance of adopting a certain attitude of letting go to help keep a certain flow to a lesson; that way, technological issues do not become the center of attention. They also stress the importance of selecting and using technologies appropriately in order to foster effective communication between participants.

While it is true that, as Lakhal et al. (2017) reveal, a BSDM reflects students' reality in terms of use of technology, some students' level of technological skills could be an issue. As Wicks et al. (2014) write, both teachers and students need to be able to troubleshoot technical issues, which can sometimes lead to comprehension challenges. Bower et al. (2015) point out that technology should be set up and tested ahead, ideally with the help of a technician, and that the teacher should be logged into a second computer "as a student" to help them better understand their experience. Cunningham (2014) stresses the importance for both instructors and participants to be aware of their environment (for instance, noticing the location of microphones and talking to the cameras). Wang et al. (2017) also point out that F2F students need to adapt to the BSLE since it affects their levels of concentration and engagement given the lack of natural communication with online students. Cunningham (2014) explains rising tension and resentment among participants in that online students feel part of the campus students' community while the campus students expect their online classmates to behave the same as they do and to conform to the same norms. Yet given how the affordances and instruments differ, all participants need to be aware of the needs of both groups and co-construct rules for classroom discourse.

Functionality and reliability issues with the technological platform (bandwidth, connectivity, background noise, or image clarity for instance) require flexibility on teachers' and students' parts and can sometimes limit or even force them to modify a lesson activity. In their study, Wang et al. (2017) found that online participants felt it was difficult to observe class events

such as demonstrations. Bower et al. (2014) also note that functionality and reliability are critical to the effectiveness of the lesson, and issues such as audio lags can be detrimental to creating group cohesion. Technological issues can also make it more difficult for online participants to engage (Conklina et al., 2017); the fact that "online students can be silenced or rendered deaf or blind at the flick of a switch" (Cunningham, 2014, p. 12) can be a rather disempowering experience. Yet in Cunningham's study, when the microphones were turned off during group work to reduce noise problems, campus students were relieved. Care must be taken so that the F2F classroom experience is not adversely affected by technological issues interfering with regular course activities, sometimes leading the teacher to be overly distracted. Cunningham (2014) has found that when technology fails and instructors assist online students, this can lead to a sense of resentment on the F2F students' part. The sense of frustration is heightened for all participants when there is no technological support available (Wang et al., 2017). Conversely, online students in Wang et al. (2017)'s study feel it can be difficult to ask questions and get the teacher's attention.

The elements presented in this conceptual framework reveal the importance of fostering strong social, cognitive, learner and teaching presences for both F2F and at-a-distance participants in order to promote high order thinking skills. While the BSDM offers advantages, the challenges posed by this format can hinder students' perceptions of one or more presences. Based on the information presented in this chapter, we can hypothesize that F2F and at-a-distance students enrolled in a blended synchronous course would have a different perception of the CoI presences; this is what this research, which focuses on the BSDM, seeks to find out. A review of the literature shall help reveal what has been discovered so far in terms of whether, in a BSDM, there is a difference in the perception of presences, as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010), between F2F students and those at a distance. Given that course delivery modes, including the BSDM, are often defined in different ways, the body of literature presented in the following chapter examines students' perceptions of the four CoI presences in a variety of non-F2F learning environments. First, findings on the relationships between the different CoI elements are discussed. Then, the features of the social presence in a BSDM are highlighted. It is noteworthy to point out that the gaps in the research done so far on this subject mean that not much is known yet on the students' perceptions of the CoI presence in the specific context of a BSDM.

CHAPTER THREE: LITERATURE REVIEW

Having examined some of the theories that help clarify the topic of this research, this section examines the empirical research that has been done on this issue. As previously mentioned, the lack of consensus on the terminology relating to the variety of non-F2F course delivery modes means that blended synchronous learning (or BSDM and BSLE) is defined in different ways. This study uses Lakhal and Meyer (2018)'s definition of blended synchronous learning: "[…] mixing both asynchronous and synchronous OL, to which F2F learning opportunities are added. It is about learning and teaching where distant students participate in F2F class sessions by means of video conferencing and web conferencing." (p. 6).

Given the lack of literature on students' perceptions of the CoI presence precisely in a BSDM, research on various non-F2F course delivery modes is included in this chapter. Two important themes have emerged from this literature review: the relationships among the different CoI presences, and the distinctive features of the CoI presences in a BSLE.

1. COMMUNITY OF INQUIRY

A teacher and participants are not sufficient to achieve deep, meaningful learning; according to the literature, a strong CoI is essential. This is especially true in non-F2F delivery modes, where each presence can be fostered in various ways.

1.1 Teaching and social presences

A distance course format such as a BSDM can pose a different cognitive load, and require considerably more effort from the teacher to stimulate interaction between the participants; this does not necessarily happen naturally, and students at a distance can feel left out (Bower et al., 2015). When implementing a distance course, the importance of nurturing a sense of community (sense of belonging and a network of support or collaboration) is pointed as key in McGee and Reiss (2012). Similarly, Bower et al. (2015) cite a study on the blended synchronous format in which the participants developed high levels of social presence; however, they write, the sense of

community needs to be fostered by the teacher. Brown's (2001) three stages of a sense of belonging to a community reveal that progression from being online acquaintances, to feeling part of a community ultimately leading to camaraderie will correlate with the intensity of engagement. To reach the third stage, there needs to be a sense of comfort and trust, which can be facilitated by an appropriate teaching presence, and ultimately lay ground for higher level discourse. The structure and leadership of the teaching presence can also help develop a cognitive presence (Garrison & Arbaugh, 2007).

1.2 Teaching and cognitive presences

While the social presence evolves from open communication, to group cohesion and affective expression, the cognitive presence stems from a triggering event leading to exploration, integration and resolution. Design and organization, discourse facilitation and direct instruction are provided by the teaching presence. In a distance education context, instructions need to be explicit and transparent since social cues or norms of the traditional F2F format are often absent for participants at a distance. Therefore, a predicator of the success of online courses is the clarity and consistency of the course structure, and whether it supports engaged instruction and dynamic discussions (Swan, 2004). Interaction and discourse, key elements in achieving higher-order learning, need to be even more structured in a non-traditional format; for instance, the quality of forum interventions should be encouraged over quantity. Purposeful online communities can help cultivate a sense of social presence through safe communication among participants, which is necessary to develop a cognitive presence (Garrison & Arbaugh, 2007). Szeto (2014) stresses the central role of the teaching presence in online and blended learning contexts since it requires multi-role leadership (particularly as a moderator of the three intersecting areas previously shown in Figure 1) that drives the other CoI presences.

1.3 Teaching and learner presences

As Shea and Bidjerano (2010) point out in their study on online and blended learning environments, a fourth presence in their revised CoI framework should be considered; that is, the learner presence. In the case of fully online students, the absence of a traditional and familiar

classroom may result in additional uncertainty, leading to a lower sense of self-efficacy. Yet their findings show that there is a strong relationship between teaching presence and self-efficacy, implying that an increased, positive teaching presence can encourage participants at a distance to be metacognitively, motivationally and behaviorally active in their own learning process. Choy and Quek (2016) echo this when they talk about teaching students to ask questions, seek clarification, challenge assumptions and develop metacognitive skills. Students at a distance need to be taught even more the skills to become self-regulated learners in an environment aiming to foster effective learning (Tichavsky et al., 2015).

In non-F2F courses, a CoI is central to student satisfaction, learning, and persistence; student retention of the material, participation in discussion, perception of learning and satisfaction with the learning experience are greater when online courses have a strong CoI (Traver, Volchok, Bidjerano, & Shea, 2013). Ultimately, a sense of community is associated with higher levels of learning; it is essential to support collaborative learning and discourse (Garrison & Arbaugh, 2007). In fact, Choy and Quek (2016) reveal that students who perceive higher levels of the CoI elements also experience higher levels of course satisfaction.

2. DISTINCTIVE FEATURES OF THE CoI PRESENCES IN A BLENDED SYNCHRONOUS LEARNING ENVIRONMENT

Several aspects of the BSDM make it a unique delivery mode; those include cognitive load, emotional and social presence. Although Lakhal et al. (2017) claim that a BSDM can help lower feelings of isolation of online students, this still remains a challenge, especially in terms of engaging with other students and forming relationships. Cunningham (2014) noticed in her study how participants saw the other group as separate from themselves; they used terms such as “us” and “them”. Wang et al. (2017) found that online participants feel isolated or excluded because of the physical separation, find it difficult to collaborate and communicate with their classmates, while the F2F participants feel neglected. Bower et al. (2015) suggest forming a sense of community early on by having all participants meet in person.

2.1 Cognitive Load

The Cognitive Load Theory (CLT), developed by Sweller, Ayres, and Kalyuga (2011), reveals there are three types of load in the human cognitive architecture; the intrinsic load (task difficulty and the learner's level of expertise), the extraneous load (how the material or task is presented and the elements around it), and the germane load (the learner's level of concentration). Effective instructional design requires minimizing the extraneous load, managing the intrinsic load, and optimizing the germane load. Yet when there is a high extraneous load, this can jeopardize the intrinsic and germane loads, thus hindering effective learning opportunities. The use of media in distance education (i.e. for F2F and non-F2F students) can serve as a motivator for students (Abrahamson, 1998); however, authors such as Bradford (2011) reveal that a cognitive overload from multimedia in the delivery strategies used can impact student satisfaction.

2.2 Technology and social presence

Wang et al. (2017) note that less visible body language and facial expressions through a screen can pose a challenge. Cleveland-Innes and Campbell (2012) claim that emotional presence exists alongside the social presence; in Cunningham (2014)'s study, the fact that the online students felt some of their comments were not picked up by the campus students reveals a need for recognition and appreciation. In a BSLE, technology can hinder the possibility to meet such a need. Alongside with inclusiveness, participation, shared cognition and feelings of social solidarity, F2F relationships are said to be important CoI features; yet the lack of F2F relationships in a BSLE can lead to a more unclear interpretation of what other participants mean. Participants in Cunningham (2014)'s study said they had a hard time interpreting body language and facial expressions since gestures, posture, direction of glare and social cues were not always clear through the technological lens. Better technology could help foster a stronger emotional presence, thus increasing the social presence among participants. Echoed in Wang et al. (2017), Conklina et al. (2017) also claim that using two cameras and microphones (one on the instructor, one on the class) can create a stronger sense of presence for the online participants, thus increasing students' senses of social presence and awareness; it makes it more *real*. For F2F participants in Cunningham (2014)'s study, where each online student was displayed on a different iPad, online students were perceived as "real people".

2.3 Levels of interaction

Interaction is a key component of the social presence, which contributes to attaining intended learning outcomes in OL (Swan, 2004). Szeto and Cheng (2014) write that meaningful peer interaction and social presence lead to significant learning attainment; this view is in line with the theoretical stance of social constructivism. They also claim that social interactions are of paramount importance to facilitate students' attainment of intended learning outcomes. Therefore, there is a strong need to enrich the social dimension in order to facilitate a sense of a learning community between both online and F2F participants. In their study, Szeto and Cheng (2014) found that the F2F group had higher intra-group interaction (students with students) while the online participants had a higher inter-instructor (students with instructor) connection. They suggested grouping online students with F2F participants to foster a more socially cohesive learning environment. However, Wang et al. (2017)'s F2F participants in their study noted that when partnered with online students, they tended to lose concentration on the instructor's presentation. Additionally, while he found that F2F participants expressed a desire to meet online students and that they felt a sense of a connected learning community, Szeto (2014) also found in his study that participants sought affective support within their own groups (online with online, F2F with F2F) when faced with frustrating or confusing situations. His study also revealed that the online participants felt as though they were really in class thanks to the multiple cameras, while the F2F students complained the lack of online students' physical presence made it difficult to interact with them. As he studied 30 hours of video recording examining the different types of interactions taking place among participants, Szeto found that F2F students had interacted among each other 222 times, while the online group had had 24 intra-group interactions. The inter-group interactions were even lower, with 16 interactions from the online group to the F2F group, and 17 interactions from the F2F group to the online group.

3. GOALS OF THE CURRENT STUDY

Work by Traver et al. (2013) reveals that there is a correlation between students' perceptions of a CoI and their satisfaction, learning and persistence in online courses. This begs the question whether the perception of a CoI in a BSLE differ between the students receiving the education F2F and those receiving it from a distance. Although technological advances have

provided avenues to make education accessible in different ways, we do not know exactly yet how the impact on the CoI in a BSDM compares between students attending in the F2F and at a distance formats. While some literature suggests it does (Cunnigham, 2014; see also Szeto, 2014; Wang et al., 2017), other research reveals otherwise (Bower et al., 2015; see also Kyei-Blankson and Godwyll, 2010; Bernard et al., 2004). The inconsistencies found in the literature confirm the relevance of this research, whose goal is to determine whether F2F and at-a-distance students enrolled in a blended synchronous course have different perceptions of the CoI.

4. RESEARCH QUESTIONS

This research measures and analyzes F2F and at-a-distance students' perceptions of the CoI in a blended synchronous course delivery mode.

4.1 General research question

In three of the CGÎM's nursing program courses taught in the BSDM, is there a difference in the perception of presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance?

4.1.1 Specific Research Question 1

Do F2F and non-F2F students have a different perception of the distinctive elements of the teaching presence?

4.1.2 Specific Research Question 2

Do F2F and non-F2F students have a different perception of the distinctive elements of the social presence?

4.1.3 Specific Research Question 3

Do F2F and non-F2F students have a different perception of the distinctive elements of the cognitive presence?

4.1.4 Specific Research Question 4

Do F2F and non-F2F students have a different perception of the distinctive elements of the learner presence?

Based on the elements from the conceptual framework and the findings presented in the literature review section, we would anticipate that the results of this research shall reveal a difference in the perception of presence between F2F and online students.

CHAPTER FOUR: METHODOLOGY

1. RESEARCH DESIGN

The following research methodology was used to help find out if the BSDM impacts the perception of the CoI between participants attending F2F and at satellite sites; the independent variable is the BSDM and the dependent variables are students' perceptions of the CoI. It is mixed methods research since the quantitative results are complemented by students' comments, which have been categorized by theme. Qualitative data is gathered from students' comments, while the results from the questionnaire reveal quantitative data. The mixed methods approach was chosen in order to complement quantitative data with students' comments; this turned out to be a very good decision given the rich qualitative data gathered from those comments. Finally, the demographic questions help describe the sample.

A *t-test* helped determine whether there is a difference between F2F and online students' perceptions of the CoI presence in a BSLE. A *p* value equal to or lower than 0.05 reveals significant difference between F2F and online groups' perceptions of each of the CoI presences.

1.1 Population and sample

The first section presents the demographic information of participants at the time of taking the questionnaire. Those include the name and course number they were enrolled in, the CGÎM site they were attending from, their gender, age group, student status, year in the program, experience with distance education, level of ease using technology, employment status, and family responsibilities.

The research took place over the winter 2017 semester. We looked at courses taught in the BSDM. The convenience sample included three sections of students enrolled in the nursing program at the CGÎM. The three courses were taught from the Gaspé campus in a blended synchronous format (through videoconferencing) with both F2F students in Gaspé and students at satellite campuses (Carleton-sur-Mer or Chandler).

Although not central to the research question, certain demographic information was elicited from the students which allowed for the comparison of the two groups along certain variables such as gender, perceived level of ease learning with technology and family responsibilities.

With a total of 21 students attending from Carleton-sur-Mer and 4 from Chandler, the sample was composed of 25 students at satellite sites, and 20 F2F from the Gaspé campus. The sample of 45 participants was divided as shown in Table 2.

Table 2
Population Sample

	Students in Gaspé F2F	Students in Carleton-sur-Mer At a distance	Students in Chandler (EPAQ) At a distance	TOTAL
180-S13-GA Communication et soins infirmiers (1st year students)	6	14	0	20
387-S03-GA Santé et société (2nd year students)	8	0	4	12
180-S63-GA Santé mentale (3rd year students)	6	7	0	13
				45

The sample used in this study (n= 45) was drawn from CGÎM students enrolled in three different courses taught in the BSDM in the nursing program. As table 3 illustrates, 20 participants (44.4%) were enrolled in the course *communication et soins infirmiers*, 13 participants (28.9%) were enrolled in *problèmes de santé mentale*, and 12 participants (26.7%) were enrolled in *santé et société*. 24 (53.3%) were in their first year, 8 (17.8%) in their second year, and 13 (28.9%) were in their third year. There were 39 female participants (86.7%) and six male participants (13.3%); this confirms the trend in the field of nursing, where a large majority of students are females

(Canadian Nurses Association, 2016). Two participants (4.4%) were in the 17 years old and less age group, 16 (35.6%) were in the 18-21 age group, 8 (17.8%) were in the 22-25 age group, nine (20%) were in the 26-30 age group, and 10 (22.2%) were in the 30-40 age group.

Table 3
Demographic information 1 – course, year, gender and age

Characteristics		Frequency	Percentage
Student enrollment number per course	180-S13-GA: Communication et soins infirmiers	20	44.4
	180-S63-GA : Problèmes de santé mentale	13	28.9
	387-S03-GA: Santé et société	12	26.7
Year in the program	1st	24	53.3
	2nd	8	17.8
	3rd	13	28.9
Gender	F	39	86.7
	M	6	13.3
Age group	17 years old and less	2	4.4
	18-21	16	35.6
	22-25	8	17.8
	26-30	9	20.0
	30-40	10	22.2

As shown in table 4, of all the participants, 44 (97.8%) were full-time students while one (2.2%) was part-time. 17 (37.8%) did not have a job while 26 (57.8%) had a part-time job and two (4.4%) occupied a full-time job. Those findings are interesting given that the nursing program at the CGÎM turned to the blended format to cater to working auxiliary nurses wishing to become registered nurses (Bergeron, 2014); we would then expect a larger number of participants to be studying full-time while having a job. 27 (60%) did not have time-consuming family responsibilities, eight (17.8%) said those were time-consuming, and 10 (22.2%) claimed they were very time-consuming.

Table 4
Demographic information 2 – student status, employment status, responsibilities

Characteristics		Frequency	Percentage
Student status	Full-time	44	97.8
	Part-time	1	2.2
Employment status	None	17	37.8
	Part-time	26	57.8
	Full-time	2	4.4
Family responsibilities	Not time-consuming/not applicable	27	60.0
	Time-consuming	8	17.8
	Very time-consuming	10	22.2

In the three courses, there were 21 students (46.7%) attending from the Carleton-sur-Mer campus, 4 students (8.9%) from the ÉPAQ site, and 20 students (44.4%) attending F2F from the Gaspé campus. This means that there were 20 students (44.4%) attending F2F from the Gaspé campus and 25 students (55.6%) from a distant site. In total, 30 participants (66.7%) said this was their first experience with the distance education format, six (13.3%) said it was their second time, and nine (20%) said it was their third time or more. Three people (6.7%) said they were little or not comfortable with technology, 20 (44.4%) said they were comfortable, nine (20%) said they were very comfortable, and 13 (28.9%) said they were extremely comfortable with technology. This is shown in table 5.

Table 5
Demographic information 3 – site, prior experience and level of ease with technology

Characteristics		Frequency	Percentage
Student enrollment number per CGÎM site	Carleton-sur-Mer	21	46.7
	EPAQ	4	8.9
	Gaspé	20	44.4
Number of F2F and at-a-distance participants	F2F	20	44.4
	At-a-distance	25	55.6
Experience with distance education format	1st time	30	66.7
	2nd time	6	13.3
	3rd time or more	9	20.0
Level of ease with technology	Little or not comfortable	3	6.7
	Comfortable	20	44.4
	Very comfortable	9	20.0
	Extremely comfortable	13	28.9

1.2 Method

A mixed-methods approach was used. Participants were given a questionnaire to fill out; it included Likert-type and open-ended questions. The first section addressed demographic elements – namely, course title and number, campus, gender, student enrollment status, year in the program, experience with distance education, perceived level of ease learning with technology, work situation, family situation, and age group. The other four sections were questions related to the four CoI presences; teaching, cognitive, social, and learner. There was room for additional comments at the end of each section.

1.3 Ethical considerations

The research project was approved by the Research Ethics Board at the CGÎM on March 30, 2017 (see Appendix A). The teachers of each course were approached and asked to participate in the study. Their participation was limited to allowing the researcher to contact their students by email to explain the research project, and give 30 minutes of class time for students to sign the consent form and fill out the questionnaire. All three teachers agreed to participate, with the condition that they were shared the results before giving their final approval for the data to be used in this project. All three teachers gave their final approbation in June 2017.

Standard consent forms (see Appendix B) were used to obtain written acceptance to participate in this study; nobody refused to sign the form. The paper questionnaires were distributed to each section during a class near the end of the 2017 winter semester. The research project had been explained in an email sent out a few weeks earlier, and took 30 minutes of class time to administer. The fact that the questionnaire was filled out in class rather than during students' free time (via email or an online survey form) helped ensure their taking the time to understand and properly answer the questions, as well as include pertinent comments. In the end, 45 students completed the survey. There was no risk or harm to any of the participants, and the confidentiality of all responses was safe-guarded. In each section, the teacher left the room during the 30-minute period, and a volunteer student was designated to hand out and collect both the consent forms and the surveys. They were put in a sealed envelope, which was later opened and

results were shared with the three teachers after the final grades for each course were submitted to the CGÎM. This was done to protect the confidentiality of the respondents. A 50$ gift certificate prize was drawn among all participants to thank them for taking part in the study. The data (questionnaires) will be kept by the researcher for two years.

2. INSTRUMENTS

2.1 Questionnaire

Instrument: Shea and Bidjerano (2010) developed a revised CoI questionnaire; the 48 questions (see Appendix C), include Garrison et al. (2000)'s original CoI questions measuring the teaching, cognitive and social presences as well as Barnard, Paton, and Lan (2008) and Lan, Bremer, Stevens, and Mullen (2004)'s questions measuring learner self-regulation (what Shea & Bidjerano, 2010, call learner presence). The questionnaire is an instrument to measure students' perceptions of the four presences (teaching, cognitive, social, and learner) on a 5-point Linkert scale of 0 (strongly disagree) to 4 (strongly agree). Arbaugh et al. (2008) measured the validity of Garrison et al. (2000)'s CoI questionnaire and the results of their study support the use of the CoI instrument as a valid measure of teaching ($\alpha = 0.94$), social ($\alpha = 0.91$), and cognitive presences ($\alpha = 0.95$). The additional 24 questions measure what Shea and Bidjerano (2010) call the learner presence. Barnard et al. (2008) and Lan et al. (2004) had created the original questionnaire, known as the online self-regulated learning (OSRL) questionnaire to assess students' SRL skills; it was validated ($\alpha = 0.9$) in a study by Barnard, Lan, To, Paton, and Lai (2009).

A paper copy of the questionnaire was distributed to all the students in the three courses at the end of the winter 2017 semester. All 45 questionnaires were used since all participants had signed the consent form. Through the questionnaire, administered to the 45-student sample, data was gathered on the following dependent variables:

A- F2F students' perceptions of the CoI

B- Students from satellite sites' perceptions of the CoI

Results helped determine how the 20 F2F students perceive the CoI compared to the 25 students at the satellite sites. The blended synchronous course delivery mode is the independent variable. A *t-test* compared both means to reveal whether:

H0: there is no difference

H1: there are differences in perceptions of the CoI between F2F students and students at the satellite sites.

CHAPTER FIVE: PRESENTATION AND ANALYSIS OF THE DATA

This chapter is divided into five parts, each separately analyzing one of the research questions. The first section presents a global comparison of the CoI presences to answer the general research question which is whether, in a BSLE, there is a difference in the perception of presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance. Sections two, three, four and five examine whether F2F and non-F2F students have a different perception of the distinctive elements of the teaching, social, cognitive and learner presences; this will help answer the four specific research questions. The data presented is enriched by students' comments, which are divided by themes and categorized into the most and the least effective characteristics in a BSDM. Given that the participants of this study are francophone and that the questionnaire was administered in French, direct quotes from students are translated to English in the footnotes. Since there are not always notable differences between both groups, similarities are also noted.

1 CoI PRESENCES COMPARISON

This section presents our results to answer the general research question, whether F2F and at-a-distance students have different perceptions of the four CoI presences (teaching, social, cognitive and learner) as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010).

The 48 questions participants answered to each belong to a specific CoI presence. The raw score for each type of presence is obtained by adding the ratings on each item related to respectively teaching presence (TP), social presence (SP), cognitive presence (CP) and learner presence (LP) and dividing this sum by the number of items accordingly. The higher the score, the more the student perceives the presence measured. Table 6 shows a comparative average for each presence between at-a-distance (Group 1) and F2F (Group 2) participants. While there were 25 respondents in Group 1 and 20 in Group 2, we sometimes notice a lower number of respondents; this is due to the fact that some of them did not answer one or more items. Nevertheless, a minimal number per group (n=20) was maintained in order to be able to conduct *t-tests*.

Results reveal a significant statistical difference between Group 1 and Group 2's perception of the teaching presence ($p < .05$) only. Group 2, the F2F participants, perceived a stronger teaching presence than Group 1, the students attending from a satellite site.

Table 6
CoI presences comparison

Type of presence	Group	N	M	SD	t	p
TP	1	25	3.28	.58	2.57	**.014**
	2	20	3.67	.38		
SP	1	24	2.38	.73	1.68	.100
	2	20	1.97	.89		
CP	1	23	2.69	.57	.023	.982
	2	20	2.68	.72		
LP	1	25	3.06	.52	1.64	.107
	2	20	3.32	.53		

Notes:
1. *p* that are significant at 0.05 or less are in bold characters.
2. M: Average; SD: standard-deviation
3. Group 1: at-a-distance; Group 2: F2F
4. TP: teaching presence; SP: social presence; CP: cognitive presence; LP: learner presence

General comments gathered from the questionnaire reveal qualitative data on students' overall perceptions of their learning experience in a BSLE; this information was divided into themes. Table 7 shows what participants found to be the most and the least effective characteristics in a BSDM. One students' comment from Group 2 sums it up well: "*Le téléenseignement possède sans aucun doute plusieurs avantages, surtout dans les plus petites régions, mais il possède aussi plusieurs désavantages.*"[2]

[2] Distance learning undoubtedly offers several advantages, especially in remote areas, but it also has several disadvantages.

Table 7
Participants' general comments – most effective and least effective characteristics in a BSDM

	Group 1	Group 2
Most effective characteristics in a BSDM	Flexibility	Flexibility
	Teaching presence	Teaching presence
	Pride	
Lest effective characteristics in a BSDM	BSDM issues	BSDM issues
	Personal preference	Personal preference
	Teaching presence	Administrative issues

Notes: Group 1: at-a-distance; Group 2: F2F

Some students from both Group 1 and Group 2 enjoy the flexibility of the BSDM; they like that it makes education more accessible as some people can attend from a satellite site. This advantage can weigh more than the disadvantages, as revealed by the comment of a student from Group 1: "*Je ne recommencerais pas de cours à distance. Le seul point positif c'est que je n'ai pas besoin de déménager pour faire mon cours, c'est tout!*"[3] Both groups also mention the teaching presence aspect, but in different ways; while some participants from Group 2 feel that it is better when the teacher only has students at a distance (none F2F), others from Group 1 point out that the teacher's integration of participants at a distance is very beneficial in helping them feel less the distance and increasing their sense of belonging. One participant from Group 1 wrote : "*Cette étude est faite dans le cadre d'un cours qui se fait bien en téléenseignement, grâce entre autres à un professeur qui rend les choses faciles en étant très bon communicateur. Les réponses auraient été différentes dans d'autres cours de la technique et avec d'autres professeurs*."[4] Finally, some people from Group 1 say they are proud of themselves for staying in the program despite all the issues present in a BSLE – including the noise, camera angle, feeling misunderstood or not being heard. One of them wrote: "*Je suis fière de terminer cette technique en soins infirmiers à distance, malgré les barrières des caméras, etc. J'ai su garder le focus sur MES objectifs. Mais il y a place à amélioration pour les cours à distance… le son… les bruits… le fait d'être entendu et compris."*[5]

[3] I would not take a distance course again. The only good thing is that I did not need to move to take this course, that's all!
[4] This study is conducted in the context of a distance education course that went well, thanks among other things to a teacher who makes things easy by being a very good communicator. The answers would have been different in other courses of the program and with other professors.
[5] I am proud to complete this nursing technique in a BSDM, despite the barriers of the cameras, etc. I kept the focus on MY goals. But there is room for improvement for distance learning ... sound ... noises ... making oneself heard and understood.

On the other hand, issues with the BSDM seem to affect Group 1 and Group 2's learning experience. Some students from Group 1 believe some (more technical or methodological) courses are not meant to be taught in this format, while others find that it is simply not the best course delivery mode. As one of them wrote, "*Je crois que certains cours ne devraient pas se donner à distance*."[6] Participants from Group 2 cite several challenges in a BSDM; they say it requires more patience, focus and attentiveness, and that they have to deal with headaches, noise, and sometimes a negative classroom atmosphere. One of the students adds that from their experience, it is better when the teacher is alone in a classroom at a distance: "*Pour avoir vécu l'expérience à distance plusieurs fois, l'idéal est lorsque le professeur est seul à distance. Sinon, lorsqu'il a deux classes en même temps, cela est très déplaisant pour la classes avec le professeur puisque l'on entend tout ce qui se passe à distance très fort. Cela vient très déplaisant. Les maux de tête sont assurés dès le début des cours et ce n'est vraiment pas l'idéal pour la concentration.*"[7] They also find that at times the disrespectful communication between sites is challenging and affects their mood so some prefer to withdraw; participants from Group 1 also say they would not take a course taught in the BSDM again. Many students from Group 1 also report noise as one of the major technical issues; while they believe non-F2F students may not be aware of this, they say they can be (unintentionally) quite loud and that simply moving one piece of paper, whispering or dropping a pencil can come off extremely loud through the speakers. One of the students wrote: "*J'ai eu l'occasion à diverses reprises cette session et la session passée, d'être présente à un cours où je faisais partie du site distant. C'était plus difficile pour moi de rester concentré. De plus, lorsque je fais partie du site non-distant, les élèves du site distant bougent seulement une feuille ou chuchotent et on l'entend (site non-distant). Ceci vient aussi déranger même si souvent, ils ne doivent même pas savoir qu'on les entend.*"[8] For some students in Group 1, the teaching presence is important to prevent people from chit chatting in the background. They also find that teachers, courses and circumstances all impact the learning experience – especially in a technical program such as nursing; they say different contexts mean different discipline issues, communication

[6] I believe that some courses should not be offered in a BSDM.
[7] Having been at the distant site in BSDE on several occasions, I find it is ideal when the teacher is alone at a distance. Otherwise, when he has two groups at the same time, it is very unpleasant for the classes with the teacher since we hear very loudly everything that is happening at a distance. This very annoying. We are sure to have a headache from the beginning of the lesson and it is really not ideal for concentration.
[8] I had the opportunity on several occasions this semester and last semester, to attend a course from the satellite site. It was harder for me to stay focused. In addition, when I am part of the F2F site, the students of the satellite site move only one piece of paper or whisper and we hear it (at the F2F site). This is also disturbing even if they often do not even know we can hear them.

among teachers, and perceptions of the CoI presence. As one of them wrote, "*La démonstration des techniques de soins à distance, la discipline, les retards causés par la fermeture d'un campus, l'enregistrement des cours manqués, la communication avec les profs entre les cours, sont tous des éléments qui viennent influencer l'apprentissage*."[9] Some of them also have a hard time staying focused and a student from Group 2 wrote : "*Le télé-enseignement n'est pas facile (et cela pour les deux sites), il est vraiment difficile pour moi d'avoir une concentration optimale.*"[10]. Another participant points to the need for extra patience : "*L'étude avec un site distant demande beaucoup de concentration et de patience."*[11] In Group 2, some participants find that there are lots of complaints from the distant site, which can be unpleasant; they think teachers should find a different method to handle those situations. Finally, one participant from Group 2 says they would have liked to have been informed by the administration that their course was going to be in the BSDM.

While the above information gives a general picture of F2F and non-F2F students' perceptions of the CoI in a BSDM, the following sections seek to answer the specific research questions by taking a closer look at the distinctive elements of each of the four CoI presences to find out whether there are differences between Group 1 and Group 2's perceptions. Moreover, quantitative data such as students' comments helps enrich the findings of this research; they are divided by themes.

2 TEACHING PRESENCE COMPARISON

The first specific research question asks whether F2F and non-F2F students have a different perception of the distinctive elements of the teaching presence. While in this study the teaching presence is the only CoI presence in the bigger picture that reveals an overall significant difference between F2F and at-a-distance students, results compiled in table 8 show that only four of the 13 items related to TP support that difference. Indeed, Group 2 perceived, in average, that the instructor better communicated course topics ($p < .01$) and due dates ($p < .01$) than Group 1. Group

[9] The demonstration of nursing care techniques, discipline, delays caused by the closing a campus, the recording of missed classes, communication between teachers of different courses, are all elements that influence learning opportunities.
[10] Distance education is not easy (and for both sites), it is really difficult for me to have an optimal concentration.
[11] Studying with a remote site requires a lot of concentration and patience.

2 also perceived that the instructor helped them learn ($p < .05$) and provided helpful feedback ($p < .01$) more than Group 1. Those results support the findings presented earlier that Group 2 perceived a stronger teaching presence than Group 1.

Table 8
Teaching presence comparison

Item	Group	N	M	SD	t	p
CoI1: The instructor communicated course topics	1	25	3.44	.712	2.90	**.006**
	2	20	3.90	.308		
CoI2: The instructor communicated course goals	1	25	3.48	.770	1.95	.057
	2	20	3.85	.489		
CoI3: The instructor provided clear instructions	1	25	3.56	.651	.75	.453
	2	20	3.70	.571		
CoI4: The instructor communicated due dates	1	25	3.64	.490	2.81	**.008**
	2	20	3.95	.224		
CoI5: The instructor helped students learn	1	25	3.16	.746	2.40	**.021**
	2	20	3.65	.587		
CoI6: The instructor helped students clarify their thinking	1	25	3.28	.737	1.82	.075
	2	20	3.65	.587		
CoI7: The instructor kept students engaged & participating	1	25	3.20	.913	1.37	.176
	2	20	3.55	.759		
CoI8: The instructor kept students on task	1	25	3.28	.843	1.15	.253
	2	20	3.55	.686		
CoI9: The instructor encouraged students to explore new ideas	1	25	3.28	.737	1.15	.253
	2	20	3.55	.826		
CoI10: The instructor established a sense of course community	1	25	2.92	.862	1.60	.116
	2	20	3.35	.933		
CoI11: The instructor helped focus discussion on issues that aided student learning	1	25	3.24	.879	1.50	.140
	2	20	3.60	.681		
CoI12: The instructor gave feedback that helped students	1	25	2.88	.927	4.13	**.000**
	2	20	3.75	.444		
CoI13: The instructor provided feedback in a timely fashion	1	25	3.32	.748	1.97	.054
	2	20	3.70	.470		

Notes:
1. *p* that are significant at 0.05 or less are in bold characters.
2. M: Average; SD: standard-deviation
3. Group 1: at-a-distance; Group 2: F2F
4. CoI#: CoI question number

Qualitative data gathered from students' comments on the questionnaire provides additional information regarding their perceptions of the teaching presence. On the one hand, some strategies help enhance their learning experience; those are shown in table 9. Some students from both Group 1 and Group 2 find that teachers who display an open-minded attitude, are good listeners, take time to ask and answer questions, as well as those who encourage participation and

group work have a positive impact on their learning experience. Comments from the participants include teaching strategies that foster a sense of belonging to the group: "*En étant dynamique et en faisant participer les élèves*"[12], "*En posant de nombreuses questions aux étudiants (autant au site non-distant que celui distant). Cela permet d'encourager la participation et de demeurer attentifs tout au long du cours*"[13], and "*En s'adressant à l'ensemble du groupe (distant et présent). En faisant participer chaque sous-groupe (distant et présent).*"[14] Certain students from Group 1 also find that having a passionate, caring, open-minded and authentic teacher who speaks in a clear tone and takes the time to visit the satellite site all contribute to a more effective learning experience. Some comments from that group that point to strategies that foster a sense of belonging to the group include: "*En incluant tout le monde dans les conversations*"[15], "*En faisant participer le groupe distant sans les oublier*"[16], "*En incitant la participation de chacun, que ce soit en présence ou en site distant*"[17], and "*Avec son ton de voix, son authenticité et sa joie d'enseigner.*"[18] They also enjoy having visual contact with the teacher, and when the latter makes them read out loud. Students from Group 2 enjoy being greeted by their teacher, feeling their physical presence, and doing practical exercises. They like having a dynamic and knowledgeable teacher who remembers to address the entire class. Overall, the teacher's attitudes and pedagogical strategies can help students feel included, be motivated, more disciplined and lower levels of anxiety from certain participants – mostly at a distance.

[12] By being dynamic and encouraging student participation.
[13] By asking many questions to students (both F2F and at a distance). This encourages participation and focus throughout the course.
[14] By addressing the whole group (F2F and at a distance). By involving each subgroup (F2F and at a distance).
[15] By including everyone in conversations.
[16] By involving the satellite group without forgetting them.
[17] By encouraging the participation of everyone, whether F2F or at a distance.
[18] With his tone of voice, his authenticity and his joy of teaching.

Table 9
Teaching presence – most effective and least effective characteristics in a BSDM

	Categories	Group 1	Group 2
Most effective characteristics in a BSDM	Teacher's attitudes	Open-minded	Open-minded
		Encourage participation	Encourage participation
		Good listener	Good listener
		Passionate	Greet students
		Visit satellite site	Dynamic
		Make students feel included	Knowledgeable
		Caring	
		Tone	
		Authentic	
	Pedagogical strategies	Group work	Group work
		Questions	Q&A
		Making students read out loud	Physical presence
		Visual contact	Addressing entire class
			Practical exercises
Least effective characteristics in a BSDM	Course format issues	Teacher's presence	Teacher's presence
		Communication	Sense of belonging
		Conflict	
		Misunderstandings	
		Noise	

Notes: Group 1: at-a-distance; Group 2: F2F

On the other hand, as illustrated in table 9, certain teacher's attitudes and pedagogical strategies in a BSDM are perceived by both groups to hinder their learning experience. Both groups mentioned the teacher's presence but for different reasons. While some participants from Group 1 find that not having a teacher in their physical classroom may cause them to miss certain material, some students from Group 2 find that the lack of physical teacher at the satellite site can lead to a problem of discipline; as non-F2F make more noise and become chatty, F2F students have a harder time concentrating. A student from Group 2 wrote: "*En ayant la présence de l'enseignante en classe, nous sommes beaucoup plus discipliné. Tandis que la classe à distance va faire par exemple plus de bruit ou elle va parler plus. C'est donc très difficile pour la concentration*."[19] Additionally, some people from Group 1 feel that the increased level of noise attributable to the BSLE causes them to miss certain points of information and some of them note that they sometimes feel misunderstood. Several students from Group 1 also mention the challenges of conflict management between both sites and effective communication; they find that they feel the distance even more

[19] By having the teacher's presence in class, we are much more disciplined. While the remote class will for example make more noise or it will chit chat more. So it's very difficult to stay focused.

when the microphone is turned off during a break. Moreover, when the teacher is wearing their lapel microphone, it is difficult for them to hear what F2F students are saying and vice versa. Participants from Group 2 also feel the distance, which in turn negatively affects their sense of belonging. The lower sense of belonging to the entire group is also echoed by students from Group 1; as one of the participants' comment reveals, the teaching presence is essential in helping both groups understand each other: "*Le sentiment d'appartenance est plus ou moins présent dans le cours, car il y a eu quelques problèmes avec le groupe de Gaspé. En d'autres mots, ils ne comprennent pas notre réalité et vidéo conférence ce qui est très triste*."[20]

3 SOCIAL PRESENCE COMPARISON

The second specific research question asks whether F2F and non-F2F students have a different perception of the distinctive elements of the social presence. As table 10 reveals, no significant difference was found between Group 1 and Group 2 in terms of their perceptions of the social presence.

[20] The sense of belonging is more or less present in the course, because there were some problems with the Gaspé group. In other words, they do not understand our reality and the reality of video conference, which is very sad.

Table 10
Social presence comparison

Item	Group	N	M	SD	t	p
CoI14: Getting to know others gave students a sense of belonging in the course	1	25	2.80	1.08	1.79	.079
	2	20	2.15	1.34		
CoI15: Students formed distinct impressions of course participants	1	25	2.88	1.01	.87	.389
	2	20	2.60	1.14		
CoI 16: Students found online or web-based communication an excellent medium for social interaction	1	24	1.63	1.20	.68	.498
	2	20	1.35	1.46		
CoI17: Students felt comfortable conversing online	1	24	1.96	1.26	.94	.350
	2	20	1.60	1.23		
CoI18: Students felt comfortable participating in discussions	1	25	2.48	1.19	.94	.352
	2	20	2.15	1.13		
CoI19: Students felt comfortable interacting with course participants	1	25	2.60	1.19	.56	.578
	2	20	2.40	1.18		
CoI20: Students felt comfortable disagreeing with others	1	25	2.44	1.08	1.84	.072
	2	20	1.80	1.24		
CoI21: Students felt their points of view were acknowledged by others	1	25	2.44	1.19	.97	.334
	2	20	2.10	1.11		
CoI22: Online discussions helped students develop a sense of collaboration	1	24	1.79	1.10	.54	.589
	2	20	1.60	1.23		

Notes:
1. *p* that are significant at 0.05 or less are in bold characters.
2. M: Average; SD: standard-deviation
3. Group 1: at-a-distance; Group 2: F2F
4. CoI#: CoI question number

Even though quantitative results did not show any significant difference on students' perceptions of the social presence, qualitative data gathered from their comments on the questionnaire point to what students feel fosters or hinders that particular presence. The open-ended question invited them to name ways in which other course participants (F2F and non-F2F) have influenced their sense of belonging to the group. Table 11 reveals what students find works best to encourage a strong social presence. Some people from Group 1 and Group 2 cite the teacher asking students questions as a strategy; certain people from Group 1 find that asking questions is beneficial while some from Group 2 find that answering questions from classmates is. The teaching presence is also seen by certain as important in moderating the social climate; as a student from Group 1 wrote: "*Il y a parfois un climat tendu, ce qui éloigne les 2 groupes. Par contre, l'enseignante intervient pour rendre l'ambiance plus agréable.*"[21] Group 1 and Group 2 also

[21] We can sometimes feel tension, which divides the two groups from one another. On the other hand, the teacher intervenes to make the atmosphere more pleasant.

highlight collaboration as fostering the perception of a social presence; people from Group 1 cite helping each other, sharing ideas and interacting in a warm, open way, while some participants from Group 2 also talk about helping each other, as well as reacting positively to classmates' comments. A student from Group 2 noted they can help feel a greater sense of belonging to the group: "*Lorsqu'ils (à distance) répondent à une intervention d'un autre participant*"[22], while a student from Group 1 wrote: "*Dans le cas des élèves présents dans la classe, l'aide, le partage et les encouragements mutuels renforcent mon sentiment d'appartenance au groupe.*"[23] Another one noted : "*L'entraide entre les étudiants nous apporte un sentiment d'appartenance.*"[24] Additionally, Group 1 and Group 2 cite respect as a significant factor; some students from Group 1 highlight the importance of respecting one another, and the need to feel respected when there is noise (which is apparently worse at a distance), technical issues, and when it is their turn to speak. They say that students need to remember to raise their hand before making an intervention. Som students from Group 2 also stress the importance of mutual respect. Furthermore, they mention the importance of listening to each other, and they point out that they have a stronger sense of belonging with their F2F classmates than with those at a distance. One of them finds that having to make as little noise as possible can hinder opportunities to communicate with the other group and consequently lower their sense of belonging ("*Si l'on avait la possibilité de communiquer entre nous, ce serait le cas. Sauf qu'on doit rester le plus silencieux possible…*"[25]) while another points out that they can feel the distance (*"Pour ma part, les étudiants présents à l'autre site me sont totalement inconnus et ce depuis le début de l'année. Le fait qu'ils sont à distance enlève le sentiment d'appartenance[26]")*. Students from Group 1 also echo this when they say they feel more help, sharing and encouragement from each other than from students from Group 2; "*Nous sommes un groupe uni à distance. Il est clair que mon sentiment d'appartenance est moins fort avec le groupe de Gaspé car je les connais moins*."[27] They also cite the importance of feeling understood (especially when there are technical issues) and making comments.

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[22] When they (at a distance) respond to an intervention by another participant.
[23] In the case of students in the classroom, mutual help, sharing, and encouragement reinforce my sense of belonging to the group.
[24] The mutual help between students gives us a sense of belonging.
[25] If we had the opportunity to communicate with each other, that would be the case. Except we must remain as quiet as possible ...
[26] For my part, the students at the other site are totally unknown to me since the beginning of the year. The fact that they are at a distance eliminates the sense of belonging.
[27] We are a united group at a distance. It is clear that my sense of belonging is not as strong with the Gaspé group because I know them less.

Table 11
Social presence – most effective and least effective characteristics in a BSDM

	Categories	Group 1	Group 2
Most effective characteristics in a BSDM	Open communication	Comments	Listening
		Questions	Questions
	Group cohesion	Collaboration	Collaboration
		Sense of belonging	Sense of belonging
			Participants
	Affective expression	Respect	Respect
		Understanding	
Least effective characteristics in a BSDM	Personality traits	Body language	Egoism
	BDSM issues	Connection	Connection
		Isolation	Teaching presence
			Technology

Notes: Group 1: at-a-distance; Group 2: F2F

However, other factors negatively impact the perception of a social presence; they are also presented in table 11. Group 1 and Group 2 both find it sometimes difficult to connect with the other group in a BSLE. Participants from Group 1 feel they do not really know students at the other site, and that sometimes they are disturbing them. There seems to be a feeling of injustice because F2F student can benefit more from the teacher's presence, creating further division between both groups; "*Nous sommes toujours ceux qui revendiquent parce qu'on demande à entendre sans bruits.. je comprends que nous devons aussi être bruillants à l'occasion MAIS comme ils ont le prof avec eux, ils ne manquent pas de matière.*"[28] They also find that having less contact with Group 2 increases the feeling of division and isolation. Students from Group 2 find that in a BSDM they have to be quieter given how sounds are heightened; they feel that this leads to interacting and knowing each other less. Moreover, since they say the BSDM creates a barrier, they feel they need to take time on their own if they wish to get to know their classmates at the distant site. A participant from Group 2 reveals that meeting in person, even on a few occasions, could help foster a sense of belonging to the group and lower the barrier that distance education creates: "*Je trouve que le téléenseignement créée une barrière au sentiment d'appartenance. Il faudrait de notre côté*

[28] We are always the ones who are making demands because we ask to hear without noise... I understand that we ourselves must also be noisy sometimes BUT since they have the teacher with them, they do not miss course material.

se trouver des moments afin d'interagir ou se rassembler en personne."[29] They also say that they have a low sense of belonging with those students because they do not know them, they have little interaction or connection, and they do not feel they can express themselves freely with them. This division between F2F and non-F2F participants is mentioned by participants from Group 1, "*Le peu de contacts partagés entre cette classe et celle à distance nous divisent beaucoup*"[30], and participants from Group 2, "*Bon sentiment d'appartenance avec le groupe en présentiel mais quasiment pas avec le site distant*"[31]; "*On ne discute pas vraiment avec les autres participants de l'autre classe*."[32] Moreover, some of them say they only care about learning the course content rather than getting to know other participants, while others point out that when students from the other site ask to turn the classroom microphone off, this also contributes to lower their sense of belonging to the group ("*Lorsque le groupe distant demande à fermer le micro de la classe où se donne le cours, disons que le sentiment d'appartenance n'est plus.*"[33]) Different personality traits can come across in a BSDM; for instance, people from Group 1 find that a word or body language such as a look can make them feel like their questions are irrelevant; as one of them wrote: "*Lorsque notre groupe de Carleton demandait des questions au professeur, des élèves à Gaspé nous signifiaient que notre question n'était pas cohérente (paroles, regards)!! Très triste car ils ne comprennent pas notre réalité!*"[34] Certain people from Group 2 deplore egoistic and egocentric behaviour, where students from the other group gladly ask questions yet they interrupt others when they do. In fact, some of them believe that the fact that those at a distance do not have a teacher physically present in class leads them to be less disciplined by, for instance, not waiting to ask a question, which some students from Group 2 find distracting and unpleasant.

4 COGNITIVE PRESENCE COMPARISON

[29] I find that distance learning creates a barrier to our sense of belonging. We should find moments to interact or meet in person.
[30] The few interactions between this group and the one at a distance creates a lot of division.
[31] Good sense of belonging with the group in the classroom but hardly any with the satellite site.
[32] We do not really have discussions with the other participants of the other group.
[33] When the group at a distance asks to close the microphone from the F2F classroom where the course is taught, let's say that there is no more sense of belonging.
[34] When our Carleton group asked questions from the teacher, students in Gaspé told us that our question was not coherent (words, looks) !! Very sad because they do not understand our reality!

The third specific research question asks whether F2F and non-F2F students have a different perception of the distinctive elements of the cognitive presence. As shown in table 12, two items regarding students' perceptions of the cognitive presence reveal significant difference between Group 1 and Group 2. While Group 2 felt in average more motivated to explore content-related topics ($p < .05$), Group 1 found that online discussions helped them appreciate different perspectives ($p < .01$) more than Group 2 did. It is important to note that, when answering the questionnaire, several students seemed puzzled by CoI28 because many of them said they did not really have online discussions; this may have influenced answers to that question.

Table 12
Cognitive presence comparison

Item	Group	N	M	SD	t	p
CoI23: Problems posed increased interest in course issues	1	25	2.52	.91	1.34	.185
	2	20	2.90	.96		
CoI24: Course activities piqued curiosity	1	25	2.68	.90	1.00	.320
	2	20	2.95	.88		
CoI25: Students felt motivated to explore content-related topics	1	25	2.52	.71	2.07	**.044**
	2	20	3.05	.99		
CoI26: Students utilized a variety of resources during the course	1	25	2.56	.87	.48	.632
	2	20	2.70	1.08		
CoI27: Students brainstormed & found relevant information to aid them in resolving questions	1	25	2.60	.70	.15	.879
	2	20	2.55	1.31		
CoI28: Online discussions helped students appreciate different perspectives	1	23	2.39	1.15	3.51	**.001**
	2	20	1.10	1.25		
CoI29: Combining new information helped students answer questions	1	25	2.68	.80	.47	.640
	2	20	2.55	1.05		
CoI30: Learning activities helped students create solutions	1	25	2.96	.67	.26	.793
	2	20	2.90	.85		
CoI31: Reflection on course content & discussions helped students understand fundamental concepts	1	25	2.84	.74	1.78	.081
	2	20	3.25	.78		
CoI32: Students can describe ways to test & apply their new knowledge	1	25	2.72	.84	.25	.804
	2	20	2.65	1.04		
CoI33: Students developed solutions to course problems that can be applied in practice	1	25	2.68	1.03	.20	.838
	2	20	2.75	1.25		
CoI34: Students can apply knowledge created in their courses to work or other non-class related activities	1	25	3.08	.95	.53	.594
	2	20	2.90	1.29		

Notes:
1. p that are significant at 0.05 or less are in bold characters.
2. M: Average; SD: standard-deviation
3. Group 1: at-a-distance; Group 2: F2F
4. CoI#: CoI question number

As table 13 reveals, a closer look at the qualitative data gathered from students' comments on the questionnaire provides interesting insight into what students believe helps improve their perception of the cognitive presence, and what does not. Some students in Group 1 find that a BSLE provides a quieter group dynamic, and that both being focused and mutual support help foster a cognitive presence. They also enjoy internships to help them integrate the course content, and find that exercises, connecting prior knowledge to new one, and working with practical content all help transfer newly acquired knowledge to their professional life. As one of them wrote: "*La structure du cours permet vraiment d'apprendre en associant de la matière déjà vue à la nouvelle matière, et ces contenus appris sont rapidement réutilisés en stage. L'intégration est alors plus facile.*"[35] Some participants from Group 2 find that an interest in the topic being taught increases motivation. They also enjoy connecting content with other course material, and learning new definitions.

Table 13
Cognitive presence – most effective and least effective characteristics in a BSDM

	Categories	Group 1	Group 2
Most effective characteristics in a BSDM	Personality traits	Support	Interest
		Focus	Motivation
	BSDM characteristics	Group dynamic	
	Course material	Structure	Content
Least effective characteristics in a BSDM	Course	Material	
		Schedule	
	Personality traits	Focus	Focus

Notes: Group 1: at-a-distance; Group 2: F2F

Conversely, as also shown in table 13, Group 1 and Group 2 also find that certain issues can hinder the cognitive presence. While both say that self-discipline is important to stay focused ("*Par contre, ça demande beaucoup de discipline (c'est facile de décrocher et de faire autre chose que d'écouter)*"[36]), Participants from Group 2 also point out that connectivity issues can be a problem, as well as noise – for instance, when the microphone is off, when it is too loud, when

[35] The structure of the course really allows you to learn by connecting prior knowledge to the new material, and this content is quickly reused during our internship. Integration is then easier.
[36] On the other hand, it requires a lot of discipline (it's easy to disengage and do something other than listen).

there is background noise, or when the sound is intermittent. This is illustrated by one of the comments: "*Le fait que la connexion soit de mauvaise qualité fait que l'apprentissage soit difficile. Il faut faire venir le technicien 2 cours sur 3, on perd beaucoup de temps dans les problèmes techniques donc on est pénalisé car on perd la concentration quand il y a des problèmes tels que : manque de son, trop de son, son entrecoupé, bruits de fond, communication qui coupe, impossibilité de se connecter avec l'autre groupe… entre autres.*"[37] Some students from Group 1 find that having a class at the end of the day makes them more tired and less receptive; "*Le fait que les cours de soins sont en fin de journée fait en sorte que nous sommes plus fatigués et donc moins réceptives*."[38] Some of them also find that the material taught could cover a wider range of topics rather than being exam-oriented. Finally, the BSDM itself is seen by some participants from Group 2 as an obstacle to them staying focused ("*Le fait d'être en « vidéoconférence » est très dérangeant, très déconcentrant*")[39].

5 LEARNER PRESENCE COMPARISON

The final specific research question asks whether F2F and non-F2F students have a different perception of the distinctive elements of the learner presence. Findings presented in table 14 reveal that students from Group 2 feel, on average, they know how to evaluate the quality of their work ($p < .05$), they are aware of their strengths and weaknesses in a learning context ($p < .05$), and they take the time to review the material related to the work to be done ($p < .05$) more than Group 1.

[37] The fact that the connection is of poor quality makes learning difficult. We must call the technician 2 courses out of 3, we waste a lot of time dealing with technical problems so we are penalized because we lose focus when there are problems such as: lack of sound, too much sound, intermittent sound, background noise, losing connection, being unable to connect with the other group ... among other things.
[38] The fact that the nursing courses are at the end of the day makes us more tired and therefore less receptive.
[39] Being in a BSDM is very disturbing, very deconcentrating.

Table 14
Learner presence comparison

Item	Group	N	M	SD	t	p
CoI35 : I am aware of the best ways I can achieve the goals I set for myself.	1	25	3.28	.73	1.25	.215
	2	20	3.55	.68		
CoI36: I know how to plan my time to manage and do the work I have to do.	1	25	2.88	.83	1.05	.297
	2	20	3.15	.87		
CoI37: I do not hesitate to ask for help as needed to complete a homework assignment or task.	1	25	2.84	.94	1.47	.149
	2	20	3.25	.91		
CoI38: I know how to identify problems that can interfere with the completion of the work to be done.	1	25	3.04	.79	.59	.553
	2	20	3.20	1.00		
CoI39: I know how to evaluate the quality of my work.	1	25	3.04	.84	2.05	**.046**
	2	20	3.50	.60		
CoI40: I am making efforts to self-evaluate my participation and motivation to complete the work to be done.	1	25	2.88	.88	1.42	.163
	2	20	3.25	.85		
CoI41: In a learning context. I am aware of my strengths and weaknesses.	1	25	3.08	.64	2.37	**.022**
	2	20	3.55	.68		
CoI42: I think about the strategies I use to complete the work to be done.	1	25	3.00	.64	1.14	.259
	2	20	3.25	.78		
CoI43: I try to make connections between the new subject and my prior knowledge.	1	25	3.24	.83	1.39	.169
	2	20	3.55	.60		
CoI44: I take the time to review the material related to the work to be done.	1	25	3.00	.95	2.29	**.027**
	2	20	3.60	.75		
CoI45: I realize that the fruit of my efforts in this course will serve me in the future.	1	25	3.28	.67	.58	.559
	2	20	3.40	.68		
CoI46: I am actively seeking from my classmates additional or complementary information related to the course activities.	1	25	3.04	.93	.77	.444
	2	20	2.80	1.15		
CoI47: I am attentive to the cognitive changes that result from my participation in the course activities.	1	25	2.92	.75	.94	.351
	2	20	3.15	.87		
CoI48: My academic performance and grades are the result of my efforts.	1	25	3.32	.85	.08	.936
	2	20	3.30	.80		

Notes:
1. *p* that are significant at 0.05 or less are in bold characters.
2. M: Average; SD: standard-deviation
3. Group 1: at-a-distance; Group 2: F2F
4. CoI#: CoI question number

Qualitative data gathered from students' comments on the questionnaire reveals that self-regulation and self-efficacy both have an impact on students' perceptions of the learner presence. This is shown in table 15. Students from Group 1 find that they need to put time and effort, and that it helps when the course is interesting and well explained. They also mention the importance of learning techniques; by taking notes, being focused and setting clear objectives they find they achieve a higher learner presence. Participants from Group 2 also find that putting effort is

important, and that an interesting course that makes links with real life and society is helpful to the point that some of them even enjoy discussing course material with their partner; as one of them wrote: "*L'apprentissage est facile dans ce cours car il est très bien structuré, guidé et enseigné. La théorie est associée à des exemples de la vie réelle et est ainsi moins abstraite et la compréhension est plus facile*."[40] Some also say that the course format has little to do with the learner presence; flexibility and adaptation, they say, is what makes a difference ("*Je ne note pas de changement au niveau de mon apprentissage que je sois ou non en téléenseignement. Il s'agit tout simplement de s'habituer*."[41]) Others admit they wait until the last minute to do their work, yet they are completely fine with the marks they get; "*Je me prends souvent à la dernière minute pour mes études et travaux, mais les notes que j'obtiens me conviennent*."[42] Finally, several students from Group 1 and Group 2 say they are proud of themselves – either because of their marks, their desire to succeed or their progress.

Table 15
Learner presence – most effective and least effective characteristics in a BSDM

	Categories	Group 1	Group 2
Most effective characteristics in a BSDM	Self-regulation	Time	Adaptation
		Effort	Effort
		Interest	Interest
		Metacognition	
	Self-efficacy	Pride	Pride
Least effective characteristics in a BSDM	Personal traits	Autonomy	Autonomy
		Support	
		Last minute	
		Time management	
		Focus	
	BSDM issues	Technical issues	Technical issues
		Workload	Workload
	Program	Format	

Notes: Group 1: at-a-distance; Group 2: F2F

On the other hand, students also report certain elements that negatively affect their perceptions of the learner presence. Those are also listed in table 15. Group 1 and Group 2 both

[40] Learning is easy in this course because it is very well structured, guided and taught. The theory is associated with real life examples and is thus less abstract and understanding is easier.
[41] I do not notice a change in my learning whether or not I am in a BSDM. It just takes some getting used to.
[42] I often wait until the last minute for my studies and work, but I am fine with the marks I get.

find that technical issues in the BSDM can be a problem; for instance, some students from Group 1 feel that their level of anxiety increases when they cannot be heard when asking a question while many students from Group 2 find themselves feeling sleepy, daydreaming, having a headache, and having difficulty staying focused because of background noise. As a participant from Group 1 wrote, note-taking can help stay focused: "*Je trouve très difficile de rester accroché pendant tout le cours. Regarder l'écran m'endort un peu, je dois donc me trouver des trucs… meilleur moyen c'est de prendre des notes.*"[43] Some students from Group 1 find that it is difficult to stay focused in general. Group 1 and Group 2 also point out that autonomy is key in a BSLE. Certain people from Group 1 cite the case of snow storms at the satellite sites; while the satellite site is closed, the F2F class still has their lesson so the students at a distance must catch up on the material by watching the web diffusion, whose quality is not always outstanding. As one of them wrote, "*Une chance que je suis capable de m'arranger seule, car souvent avec la distance, il faut être capable de faire ses choses seule. Par exemple, s'il y a tempête à Carleton et pas à Gaspé, Gaspé ont de l'école et nous non alors il faut s'arranger avec ce problème (cours en webdiffusion qui marche souvent mal.)*"[44] Some students simply do not find their learning experience in a BSDM as effective as when entirely F2F ; "*Je dois planifier de meilleure façon mon temps. Je devrais être plus attentif durant certaines classes. Mes apprentissages sont plus simples dans les cours sans téléenseignement. Je suis plus concentré sur la matière*."[45] Group 1 and Group 2 complain that the nursing program has a heavy workload, which requires autonomy and time management skills ("*Les études en soins infirmiers demandent une bonne organisation de son temps étant donné la quantité de travaux et d'examens*."[46]); some participants from Group 1 also report having a tendency to wait until the last minute to do their work while others, from Group 2, say they feel lost with the amount of reading and homework assignments. Moreover, some students from Group 2 find it hard to make links between the different program courses while others sometimes fail to see the distinction between the psychological and ethical aspects of a course. Finally, some people report that feelings of isolation can be lessened thanks to mutual support and autonomy; as a

[43] I find it very difficult to stay focused throughout the course. Watching the screen makes me a little sleepy, so I have to find strategies ... the best way is to take notes.
[44] I am lucky that I am able to manage by myself, because often with the distance, you have to be able to do things alone. For example, if there is a storm in Carleton and not in Gaspé, the Gaspé campus is open but not ours so we have to deal with this problem (the webcast often works badly.)
[45] I have to plan my time better. I should be more attentive during certain classes. My learning is simpler in courses without distance learning. I am more focused on the subject.
[46] Studying in the nursing program requires good time management given the amount of work and exams.

participant from Group 1 wrote : "*Je crois qu'après 3 années en télé-enseignement, on apprend à être autonome dans notre apprentissage et à s'entraider entre collègues comme nous sommes « seul » dans la classe*."[47]

[47] I believe that after 3 years studying at a satellite site in a BSDM, we learn to be autonomous in our learning and to help each other as we are "alone" in the classroom.

CHAPTER SIX: DISCUSSION AND CONCLUSIONS

1 DISCUSSION OF MAIN RESULTS

The findings of this research revealed significant difference between Group 1 and Group 2's perceptions of the teaching presence only. Group 2, the F2F participants, perceived a stronger teaching presence than Group 1, the students attending from a satellite site. Given Garrison and Cleveland-Innes (2005)'s illustration of teaching presence as being crucial in providing structure (i.e., design) and leadership (i.e., facilitation and direction) to guide deep and meaningful learning in a non-F2F environment, it appears that students at the satellite site perceived a weaker teaching presence. As students need guidance and facilitation (Powell & Kalina, 2009), this means that they had an inferior opportunity to achieve deep and meaningful learning. Students' comments confirm that the teacher's integration of participants at a distance is very helpful in making them feel less the distance and in increasing their sense of belonging. Moreover, the discipline problems (chit chatting, negative attitude, noise, and so on) and communication issues they said to have experienced can be attributable to the lower teaching presence some perceived. It is important to note that this research surveyed three different groups with a distinct teacher for each, and that one of those groups said to have experienced conflict between the F2F and non-F2F groups. Nevertheless, in a BSDM, there is indeed a difference in the perception of presences as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance; the difference is in the teaching presence only. While this answers the general research question, the four specific research questions have led us to look at each CoI presence and examine every single one of the 48 items.

1.1 Teaching Presence

A closer look at the 13 questions pertaining to the teaching presence reveals that F2F students felt that the instructor better communicated course topics and due dates than those at a distance. F2F participants also perceived that the instructor helped them learn and provided helpful feedback more than at the satellite site. This supports Swan (2004)'s findings that, in a distance

education context, instructions need to be explicit and transparent since social cues or norms of the traditional F2F format are often absent for participants at a distance. Therefore, a predicator of the success of online courses is the clarity and consistency of the course structure, and whether it supports engaged instruction and dynamic discussions. The fact that online participants perceived a lower teaching presence could explain why they also felt that course topics and due dates were less clear, that the instructor was less helpful, and that the feedback they received was less helpful as well. For instance, non-F2F students commented that not having a teacher in their physical classroom may have caused them to miss certain material, and that the increased level of noise attributable to the BSLE would have caused them to miss certain points of information. Some of them even noted that they sometimes felt misunderstood. All those factors can help account for online students' perceptions of a lower teaching presence. Therefore, in a BSDM, there is indeed a difference in the perception of the teaching presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance.

One of the teachers said they noticed indeed an additional cognitive load for everyone in a BSDM. One possible explanation for the lower score of the teaching presence among non-F2F participants could be a lack of institutional support; perhaps the teachers had not had professional development or the time to re-design their course. Two of them mentioned that they would have liked to visit the non-F2F group in person more than once, especially since the students said they like that (some of them even touch the teacher to confirm that they are real), but that it was difficult to fit in a six-hour dive because of their workload and energy levels. One teacher stressed the importance to meet the non-F2F group early as it immediately changes the dynamic. Another mentioned that it would have been important for both F2F and non-F2F groups to meet in person at least once; again, this was not done mainly for logistical reasons. Administrative decisions can also interfere with classroom dynamics when, for example, students are not informed they are enrolled in a course taught in the BSDM. This is also true when low bandwidth prevents students and teachers from connecting with each other over their personal electronic device (a cell phone for instance), or the resource person at the satellite site (who unfortunately usually does not take part in the pedagogical activities in class, unlike in several MTP courses) keeps changing.

It is also possible that technical issues interfered with the teaching presence, thus preventing non-F2F students to fully feel such presence. One of the teachers said the technology is constantly evolving and that the CGÎM would need to invest in new equipment. They also said they would like to have a sound technician at both sites to help manage technical issues. A second teacher pointed out the importance for the instructor to be flexible and resourceful in order to deal with technical issues that can arise at any time and interrupt the flow of a lesson; when teachers do not feel safe with technology, they are less willing to experiment other pedagogical strategies (the instructor gave the analogy of Maslow's hierarchy of needs[48]). Another said that when all the students are in the same physical classroom, when something irritating happens they share the same experience and better understand each other; in a BSDM however, F2F and non-F2F students can have a different perception of the same issue, thus relating to it in a different way.

At times, the technological aspect of the BSDM affected online student's opportunity to hear or see the instructor reviews or comments on students' responses, keeps discussions moving efficiently, draws out inactive students and adjusts activities. They may not have had the chance to experience their instructor scaffolding learner knowledge to raise to new cognitive levels, using a variety of assessment techniques, providing explanatory feedback, diagnosing misconceptions, making links among student ideas, and suggesting explicit learning strategies (Garrison & Arbaugh, 2007). One of the teachers said they find the non-verbal cues difficult to pick up in a BSDM; while they ask if anyone has questions, they cannot necessarily see in non-F2F students' body language whether everything is clear. This was also addressed by a second teacher who said they tend to ask more specific clarification questions rather than a general call to see if anyone has questions. Another teacher explained that taking the traditional F2F model and replicating it in a BSDM just doesn't work; barriers such as distance and technology need to be taken into consideration, referring to what McGee and Reiss (2012) call the *course-and-a-half* phenomenon. One teacher cited the example of handing out photocopies to F2F students while non-F2F students had to print the documents and pay a printing fee; to avoid any feelings of discrimination and injustice, the teacher now posts all the documents online. Two teachers also mentioned non-F2F students' insecurity and increased anxiety levels in the BSDM, while another talked about dealing

[48] Maslow's hierarchy of needs is a motivational theory in psychology comprising a five-tier model of human needs, often depicted as hierarchical levels within a pyramid.

with demanding students; students, they say, fear they may miss out important material so they often ask the teacher to repeat what they said and they have a tendency to send lots of emails to clarify information. One of the teachers also noticed that when they visit the satellite site, non-F2F students may ask a very same question they had already asked when the teacher was at a distance; yet they seem to better understand the teacher's answer then just because of their physical presence.

1.2 Social presence

In terms of students' perceptions of the social presence, comments help better understand the lack of significant difference that was found between both groups. Interestingly, while the *t-test* revealed no significant difference between both groups, students' comments did highlight some areas they appreciated more, and some they found challenging; therefore, the qualitative data uncovered differences between Group 1 and Group 2. For instance, they echo findings in Conklina et al. (2017) that some F2F students can feel neglected when the teacher spends more time dealing with non-F2F participants and technical issues. Others confirm that unclear social cues through the technological lens made it harder to interpret body language and facial expressions, which lead them to feel weaker emotional and thus social presence (Cunningham, 2014). Additionally, an online community set-up by the teacher could have helped cultivate a sense of social presence (Garrison & Arbaugh, 2007) rather than, as noted in the comments, having a division between Group 1 and Group 2. It seems that questions and answers, collaboration, interaction, sharing ideas, reacting positively to classmates' comments, and helping each other helped foster their perceptions of the social presence. They also cited the importance of mutual respect, understanding each other's reality, and listening to one another as factors that helped increase their sense of belonging. It is possible that when answering the questionnaire, students were thinking of "a group" as their own group (F2F or non-F2F) rather than then entire class as a whole. While some literature (Bower et al., 2015; Cunnigham, 2014; Wang, Quek & Hu, 2017) claims that F2F and non-F2F students have a different perception of the social presence, the distinctive BSDM at the CGÎM could help account for the lack of significant statistical difference in the present study. While participants from Group 1 and Group 2 noted the importance of interaction as a key component of the social presence (Swan, 2004), they also found two elements that divided them from the other group: the need for comfort and trust to be willing to engage (Brown, 2011) as well as a need for recognition

and appreciation (Cunnigham, 2014). However, each group still felt a sense of social cohesion because they were able to find those features within their very own group (Group 1 with Group 1, Group 2 with Group 2 rather than Group 1 with Group2 and vice versa). In line with Szeto (2014)'s findings that participants sought affective support within their own groups (online with online, F2F with F2F) and displayed higher inter-group interactions, F2F participants in this study reported a stronger sense of belonging with their F2F classmates than with those at a distance. Online students also echoed this when they said they felt more help, sharing and encouragement from each other than from the F2F group. My personal experience as an MTP student was originally rather the opposite; on several occasions, early in the program, I felt a great sense of isolation and a very low social presence. The MTP format has a group of students and a teacher together in a classroom and non-F2F students participating individually from their home. When I started in the MTP, some teachers and computer technicians would often be so invested in the F2F group that they would forget about non-F2F participants; therefore, it was impossible for me to develop inter-group cohesion and extremely difficult to take part in intra-group interaction. Over time, some teachers began to better plan lessons so that non-F2F participants could interact either with F2F or non-F2F participants, thus increasing the sense of a social presence. In this study, the fact that participants at the satellite site shared a common classroom could account for the lack of significant statistical difference found between both groups in terms of their perceptions of the social presence; both F2F and non-F2F groups found emotional presence and social cohesion within their own group rather than in the intra-group setting. This is confirmed in Szeto (2014). Therefore, in the particular BSDM at the CGÎM, there is no difference in the perception of the social presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance. The lack of significant difference with regards to the social presence could be accounted for by the fact that both F2F and non-F2F groups found intra-group support; therefore, they felt a sense of a social presence within their own group, as opposed to through inter-group interactions.

Pedagogically, the BSDM may have been a challenge for some of the teachers. While two of the three teachers had taught in the BSDM for several years, one of them was only beginning to get familiar with the format. Two of them said it is very difficult to foster social cohesion between the F2F and non-F2F groups and that they do not believe in dealing with both groups as only one

group; they find it important to understand the reality of both groups, and to encourage both F2F and non-F2F students to appreciate each other's reality. One of the teachers mentioned that it can be more difficult to manage negative leaders when they are at a distance and that discipline is essential in a BSDM; insisting on the tone certain students use is said to be crucial as well as making them aware of the message a simple sigh can send. It is important to encourage them to identify and talk about what they are feeling. Another said dealing with discipline in a BSDM can be irritating because non-F2F students can sometimes take advantage of the distance barrier to get on their phone, chat with each other, or even be plainly arrogant. In fact, the teacher said, it is crucial to be firm and act quickly in case of discipline issues since it can escalate; however, they said, it can be challenging since sometimes the teacher needs time to reflect on what happened when, for instance, their perceived a non-F2F student was rude to them judging by their tone. In one instance when there was conflict between both groups, a non-F2F student actually sent their teacher a threatening email they later apologized for; the barrier created by the distance can indeed aggravate the "us" and "them" division (Cunningham, 2014).

Moreover, the BSDM requires everyone to be more patient, to raise their hand, to be more tolerant, which emerging adults may not necessarily be familiar with at this stage in their life. One teacher said in a traditional non-F2F course they can intervene through body language (a look, for instance) while in a BSDM they often need to intervene verbally, which takes some getting used to. This can also create antagonistic situations with students who do not appreciate being put on the spot; conflict can also escalate quickly under those circumstances. Another teacher said they actually wait after class to send the student and email or give them a call to avoid putting them on the spot. As one teacher said, it is important to solve any conflict as soon as possible, especially with first year students ("nip it in the bud!"), otherwise tension and resentment could be carried on during the entire three-year technical program; this is apparently what happened with one of the three research groups. Another said that it is important to use humour (timing is key), call students by their name (this was echoed by another teacher as something crucial) and get close to the camera so the non-F2F students feel emotionally involved in the group; this helps relax the classroom ambiance. Saying something like "I am going to drop by Carleton now" as the teacher gets closer to the camera can help achieve such a goal. One teacher stressed the importance of constant eye contact with the camera; otherwise, non-F2F students may feel like the teacher is not listening.

Students also enjoy a warm tone of voice, or the sharing of personal information that helps create links. Finally, one of the teachers finds that it is important in a BSDM to adopt more of a case study teaching approach rather than focusing too much the content.

1.3 Cognitive presence

Regarding the cognitive presence, two of the 12 questions pertaining to students' perceptions showed significant difference; F2F students felt more motivated to explore content-related topics than non-F2F students, and non-F2F students found that discussions helped them appreciate different perspectives. In Garrison and Arbaugh (2007)'s practical inquiry model, this would mean that F2F participants felt comfortable in the exploration phase while non-F2F pupils enjoyed the integration and resolution phases. As their comments reveal, F2F participants showed interest and motivation, and enjoyed connecting content with other course material as well as learning new definitions. Perhaps online students' comment that having a class at the end of the day made them more tired and less receptive could account for their lower levels of motivation to explore content-related topics. As the cognitive load theory (CLT) reveals, this could be thanks to the added cognitive load that the distance education format carries; indeed, the BSDM can increase the extraneous load, which in terms can jeopardize the intrinsic and germane loads (Sweller et al., 2011). Additionally, given that the teaching presence scored the lowest and that, as Swan (2004) reveals, a predicator of the success of online courses is the clarity and consistency of the course structure, perhaps this explains why in some cases the class at the end of the day also felt like an added cognitive load. However, having surveyed three different courses with a distinct teacher for each could possibly account for some students' comments that they actually enjoyed the course structure because they could connect prior knowledge to new one, and then use it in their internship thus making it easier to integrate the material. Different teachers mean different learning experiences and as Szeto (2014) noted, the teaching presence plays a central role in online and blended learning contexts since it requires multi-role leadership that drives the other CoI presences. Some participants' remark that the material taught could have covered a wider range of topics rather than being exam-oriented reveals that perhaps non-F2F students were counting on the teacher to explore more content-related topics rather than doing it themselves. As Garrison and Arbaugh (2007) claim, purposeful online communities can help cultivate a sense of social presence

through safe communication among participants, which is necessary to foster a cognitive presence, and the structure and leadership of the teaching presence can also develop a cognitive presence; this confirms why non-F2F students found that discussions helped them appreciate different perspectives. Finally, the findings corroborate the central roles of the teaching and social presences in fostering the cognitive presence. They also reveal that, in a BSDM, there is a difference in the perception of the cognitive presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance.

The significant differences found on specific items of the teaching, cognitive and learner presences could be directly connected to the overall lower score of the teaching presence; indeed, a predicator of the success of online courses is the clarity and consistency of the course structure, and whether it supports engaged instruction and dynamic discussion (Swan, 2004). Moreover, while the use of media can serve as a motivator for students (Abrahamson, 1998), a cognitive overload from multimedia in the delivery strategies used can impact student satisfaction as well (Bradford, 2011).

1.4 Learner presence

In terms of learner presence, three of the 14 questions revealed significant differences: F2F students feel they know how to evaluate the quality of their work, they are aware of their strengths and weaknesses in a learning context, and they take the time to review the material related to the work to be done – more so than participants from satellite sites. Shea and Bidjerano (2010) point to a strong relationship between teaching presence and self-efficacy, implying that an increased, positive teaching presence can encourage participants at a distance to be metacognitively, motivationally and behaviorally active in their own learning process. The fact that non-F2F students perceive a lower teaching presence, confirms these findings and the correlation between the teaching and learner presences. Moreover, the technical issues students said to have experienced in the BSLE could also account for non-F2F students' lower score on the learner presence. In fact, Choy and Quek (2016) claim that teaching students to ask questions, seek clarification, challenge assumptions and develop metacognitive skills can help develop learner

presence. Yet many of the online students reported noise as one of the major technical issues; while they believe non-F2F students may not be aware of this, they say they can be quite loud and that simply moving one piece of paper, whispering or dropping a pencil can come off extremely loud through the speakers. Moreover, they feel that their level of anxiety increases when they cannot be heard when asking a question, and find that it is difficult to stay focused in general. Therefore, technological issues that interfere with non-F2F participants' ability to ask questions, seek clarification, challenge assumptions and develop metacognitive skills could explain why they scored lower on certain aspects of the learner presence. Additionally, Tichavsky et al. (2015) contend that students at a distance need to be taught even more the skills to become self-regulated learners in an environment aiming to foster effective learning; while both groups complain that the nursing program has a heavy workload, which requires autonomy and time management skills, some non-F2F participants have reported having a tendency to wait until the last minute to do their work. Perhaps they began the program without any prior knowledge on how to self-regulate and engage in metacognition; also, maybe they were not guided by their teacher to develop such skills. Ultimately, results confirm that, in a BSDM, there is a difference in the perception of the learner presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance.

Demographic factors could help account for the different CoI perceptions. As 53.3% of participants were in their first year, they may have needed more time to adjust to the program requirements, the course format, and to develop learning strategies. Moreover, 40% of respondents said to have family responsibilities that were either time-consuming or very time-consuming, which could explain why some of them reported feeling tired and having difficulty staying focused. One of the teachers also pointed out that different towns have different socio-economic status that can also impact the background their students take with them to class in terms of maturity, engagement or autonomy. The fact that 66.7% of students were experiencing distance education for the first time could also account for the technical issues that were said to affect their perception of each CoI presence. Another factor could be that 48.9% of them were either very or extremely comfortable with technology, meaning that the other half was little or not familiar with it.

2 CONCLUSIONS

This research measured and compared F2F and non-F2F students' difference of perceptions of the CoI in a BSDM. The general research question was: in in three of the CGÎM's nursing program courses taught in the BSDM, is there a difference in the perception of presence as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) between F2F students and those at a distance? The first specific research question was: do F2F and non-F2F students have a different perception of the distinctive elements of the teaching presence? The second specific research question was: do F2F and non-F2F students have a different perception of the distinctive elements of the social presence? The third specific research question was: do F2F and non-F2F students have a different perception of the distinctive elements of the cognitive presence? And the fourth specific research question was: do F2F and non-F2F students have a different perception of the distinctive elements of the learner presence?

The research began with the premise that students who experience a strong CoI presence in a course can benefit from a superior learning opportunity (Wicks et al., 2014). Moreover, past research revealed that there is a correlation between students' perceptions of a CoI and their satisfaction, learning and persistence in online courses (Traver et al., 2013). The theoretical framework presented in chapter two highlighted the importance of the teaching presence to deliver direct instruction and facilitate discourse in order to encourage cognitive and social processes. The social presence is translated into group cohesion, collaboration, open communication and affective expression, as well as sharing personal emotions; it requires intellectual focus and respect. Through the cognitive presence, learners connect and confirm meaning through sustained reflection and substantive discourse (Garrison & Arbaugh, 2007). Finally, personal-level traits such as learning style, personality, motivation, effort, self-efficacy, metacognition and self-regulation, are all characteristics of the learner presence (Shea and Bidjerano, 2012).

Although there is a lack of consensus on the terminology of different course delivery modes, the BSDM is the one that was studied in this research and defined as "[…] mixing both asynchronous and synchronous OL, to which F2F learning opportunities are added. It is about learning and teaching where distant students participate in F2F class sessions by means of video

conferencing and web conferencing." (Lakhal & Meyer, 2018, p. 6). This course delivery mode offers advantages such as flexibility and access, the quality of the learning experience, learning outcome enhancement, and institutional benefits. It also poses challenges including institutional support, additional workload, teaching presence, course design, and technologies. A review of the literature in chapter three revealed the key role teachers play in fostering the sense of a social presence among participants. When done properly, it can lead to a level of comfort and trust that stimulates interaction; when it is missing, students can feel left out and be less likely to engage (Bower et al., 2015). The teaching presence is also important in supporting the cognitive presence; the clarity and consistency of the course structure play an important role in order to support interaction and discourse, which help achieve higher-order thinking learning (Swan, 2004). Additionally, an increased, positive teaching presence can encourage students' levels of self-efficacy, thus inciting them to be metacognitively, motivationally and behaviourally active in their learning process (Shea and Bidjerano, 2010).

Although a BSDM can help lower feelings of isolation of online students, it still remains a challenge, especially in terms of engaging with other students and forming relationships (Lakhal et al., 2017). Cunningham (2014) cites the "us" and "them" phenomena, Wang et al. (2017) point to the physical separation that accounts for feelings of isolation, exclusion, and difficulty to collaborate and communicate. Cunningham (2014)'s study also reveals the need for recognition, appreciation, inclusiveness, participation, shared cognition, and feelings of social solidarity; she claims a BSDM can hinder the possibility to meet such needs. Moreover, Cunningham (2014) and Wang et al. (2017) point out that less visible body language and facial expressions through a screen can lead to misinterpretation of what participants mean and their social cues. Wang et al. (2017) and Conklina et al. (2017) note that the type of technology used can either foster or hinder emotional presence, which is said to increase the social presence among participants. In line with the theoretical stance of social constructivism, meaningful peer interaction and social presence lead to meaningful learning outcomes (Szeto & Cheng, 2014). Szeto (2014) found in his study higher inter-group interaction (F2F with F2F, online with online), lower intra-group interaction (F2F with online, and vice versa), and that participants sought affective support within their own groups (online with online, F2F with F2F) when faced with frustrating or confusing situations.

The teaching profession has witnessed several transformations over the last decades and the shifting from the "sage on stage" to the "guide on the side" approach, as well as going from a sole asynchronous delivery mode to a BSDM are two examples that illustrate such changes. While the 1993 Quebec education reform advocated for a more universal design for learning where teachers are not only content specialists but also facilitators who design group work activities and encourage learners to develop metacognitive strategies, the 2009 Demers report predicted the advent of more non-asynchronous course delivery modes in higher education. As a competency-based approach to education not only acknowledges the importance of teaching and learning, but also points to cooperation and metacognition as equally significant factors (Demers, 1993), the use of the BSDM requires institutions and instructors to think differently. Indeed, a non-F2F format impacts teachers' pedagogical approach as they need to re-design their courses, also known as the *course-and-a-half* phenomenon (McGee & Reis, 2012); this also means a need for more institutional support.

By measuring students' perceptions of the CoI, we measured their learning opportunities and therefore students' satisfaction. We would like F2F and non-F2F participants to have the same learning opportunities since the opposite would mean that one of the groups is disadvantaged. Therefore, the findings presented in this study would ideally have revealed no significant difference; this would have meant that both groups were treated equally. Yet they reveal otherwise; non-F2F students perceived a lower teaching presence. This raises a serious issue since the teaching presence plays a more central role than the other presences to reach the learning outcomes (Wicks et al., 2014). A closer look at each CoI presence items further revealed that F2F and non-F2F students have a different perception of the distinctive elements of not only the teaching presence, but also the cognitive and the learner presences. Finally, no statistically significant differences were found in terms of F2F and non-F2F students' perceptions of the distinctive elements of the social presence, but some comments revealed otherwise.

3 LIMITATIONS OF THE STUDY

The primary focus of this study was to find out if, in a BSLE, there is a difference in the perception of presence, as defined in the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010), between F2F students and those at a distance. Based on the literature review on F2F and satellite students enrolled in a non-F2F course, it was hypothesized that both groups may have a different perception of the CoI presences. While the findings presented in this research confirm that there is a difference, namely in the teaching presence and in certain items of the other presences, certain elements could limit this study.

One limitation of this study is that the results are only applicable over a semester; further study should therefore assess the impact and validity of the results long term. Moreover, students' perceptions may not necessarily represent the reality; we saw that a large percentage of them are first year students. We also saw that some students had had more prior experience with the blended synchronous course format, which can affect their level of ease in a BSLE. Moreover, students' educational as well as motivational backgrounds may vary. Additionally, there could be a gender bias that affects the results. Finally, the fact that the courses were taught by different teachers could impact the findings; for instance, teachers with more teaching experience could perform differently than teacher for whom this was their first or second time. Likewise, teachers' experience with, as well as their pedagogical knowledge of, the BSDM may also vary.

4 IMPLICATIONS

In light of the findings presented in this research, teachers, with the help of pedagogical advisors, should work on different aspects that will help both F2F and non-F2F groups reach equal learning opportunities; they should research and develop protocols and tools to do so. Several of those were presented in both the conceptual framework and the literature review sections. Students' comments also provide helpful tips on the most effective characteristics in a BSLE. Because of its numerous advantages, the BSDM will certainly continue to become one of the most popular course delivery modes. Yet the challenges posed by this course format also need to be addressed. As we are witnessing a growth in distance education and course formats such as the BSDM, it is important to ensure that a BSLE fosters a strong CoI among participants attending both F2F and from satellite sites. Indeed, students who perceive a strong CoI are generally more

satisfied with their learning experience and tend to perform better academically; in other words, the perception of a strong CoI is associated with deep, meaningful learning. As a Cégep teacher, I find that the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010) can serve as a strong pedagogical compass when designing courses in general. Additionally, the qualitative data drawn from students' comments highlights effective pedagogical strategies while also shedding light on the ones pupils find to be the least effective.

Given that the CGÎM has already turned to the BSDM to offer various courses as well as several of its programs, it was only a matter of time for general education courses such as the English as a second language (ESL) discipline to be taught in a non-traditional format; as it turns out, a colleague will be teaching the first CGÎM online beginner's ESL course in the fall 2018 semester. As an ESL teacher myself, I may eventually be asked to teach a course in a non-F2F format, possibly in the BSDM; the results found in this study will certainly impact my professional practice. Indeed, findings presented in this research confirm that there is a difference, namely in the teaching presence and in certain items of the other presences. Therefore, the issues raised in this research shall be worked on to help teachers, myself included, acquire better pedagogical tools when teaching in a BSLE, thus improving the quality of students' learning experience.

5 SUGGESTIONS FOR FURTHER RESEARCH

The growth we are observing in distance education and course formats such as the BSDM is likely to keep expanding. Since students who perceive a strong CoI are generally more satisfied with their learning experience and tend to perform better academically, it means that the perception of a strong CoI is associated with deep, meaningful learning. Therefore, it is crucial that a BSLE fosters a strong CoI among participants attending both F2F and from satellite sites. The questionnaire used, based on the CoI framework elaborated in Garrison et al. (2000) and later revised by Shea and Bidjerano (2010), revealed itself to be very pertinent and useful. It could be used in professional development; for example, in instances of teacher training. More work should be done to reach a consensus on the terminology surrounding course delivery modes, and the impact of a BSDM on the CoI presences. Additionally, the emotional presence Cleveland-Innes and Campbell (2012) discuss was echoed by students' comments, and should be investigated in further research. Finally, the relationship between the CLT elaborated by Sweller et al. (2011) and

the BSDM was confirmed in some teachers' and students' comments; this should also be investigated in further research.

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APPENDIX A RESEARCH ETHICS BOARDS APPROVAL LETTER

Cégep de la Gaspésie et des Îles

Comité d'éthique de la recherche

ATTESTATION DE CONFORMITÉ

Le comité d'éthique de la recherche du Cégep de la Gaspésie et des Îles certifie avoir examiné la proposition de recherche suivante :

Projet intitulé : *Students' perceptions of the Community of Inquiry (COI) in a blended synchronous learning environment.*

Nom du chercheur responsable : Anne-Marie Lafortune
Adresse :
Courriel :
Numéro de téléphone avec poste :

Après examen des informations et des documents qui lui ont été remis, le Comité d'éthique de recherche (CÉR) du Cégep de la Gaspésie et des Îles a constaté que ce projet respecte les principes d'éthique de la recherche avec les êtres humains en conformité avec sa Politique sur l'éthique de la recherche avec les êtres humains.

Le projet a été évalué lors d'un comité restreint tenu le : 30-03-17
En présence des membres suivants :

Éric Tamigneaux, président du comité
Éric Labbé,
Gilbert Bélanger
Françoise Leblanc-Perreault

Mesures (s) de suivi :	Voir les mesures de suivi associées à l'adoption éthique ci-jointes.
Numéro d'approbation :	2017CER_1
Date d'approbation :	30-03-17
Date d'expiration de l'approbation :	01-06-18

Émis à Gaspé, ce 30-03-17

Le président du comité,

Éric Tamigneaux

Cégep de la Gaspésie et des Îles

Comité d'éthique de la recherche

MESUIRES DE SUIVI ASSOCIÉES À L'APPROBATION ÉTHIQUE

Pour le projet intitulé : *Students' perceptions of the Community of Inquiry (COI) in a blended synchronous learning environment*.

1. *Tout changement au protocole soumis pour ce projet de recherche et visé par le présent certificat doit être soumis au CÉR pour une nouvelle approbation.*

APPENDIX B CONSENT FORM FOR STUDENT PARTICIPATION

FORMULAIRE DE CONFIDENTIALITÉ ET DE CONSENTEMENT LIBRE ET ÉCLAIRÉ

1. **INVITATION A PARTICIPER AU PROJET DE RECHERCHE**

   Vous êtes invité à participer à un projet de recherche. Avant d'accepter, veuillez prendre le temps de lire attentivement les informations suivantes. Nous vous invitons à poser toutes les questions que vous jugez utiles à la personne responsable du projet afin de vous assurer une compréhension claire de ce qu'implique votre participation à cette recherche.

2. **RENSEIGNEMENTS GÉNÉRAUX**

   a) **TITRE DU PROJET :** Students' perceptions of the Community of Inquiry (COI) in a blended synchronous learning environment.

   b) **CHERCHEUSE RESPONSABLE**

   NOM: Anne-Marie Lafortune

   COORDONNEES : Cégep de la Gaspésie et des Îles, campus de Gaspé

   FONCTION : ENSEIGNANTE (ANGLAIS LANGUE SECONDE)

   c) **ÉQUIPE DE RECHERCHE**

   Nom: N/A

   COORDONNÉES: N/A

   FONCTION : N/A

   d) **RÉSUMÉ DU PROJET**

   PROBLEMATIQUE :Tous les étudiants devraient avoir accès à une éducation de qualité. Cependant, divers facteurs tels que la maladie, le travail à temps partiel, l'éloignement du site enseignant, ou la diminution du financement gouvernemental (ayant ainsi pour effet la fermeture de certains programmes dans certains établissements) peuvent dissuader ou empêcher un étudiant d'étudier sur le campus d'où l'enseignement est dispensé. Dans une région comme la Gaspésie, les besoins du marché du travail sont fortement dépendants de la diplomation étudiante, en particulier dans certains programmes techniques au collégial. Par exemple, en 2007, l'Agence de Santé de la Gaspésie prévoyait une pénurie d'infirmières ; il fallut donc s'assurer de maintenir un nombre adéquat de diplomation en soins infirmiers dans la région. Les nouvelles avancées technologiques ont permis d'offrir un plus grand accès à l'éducation et cet accès a pris plusieurs formes, notamment l'enseignement dit *hybride* - tel que le téléenseignement en multi-sites ou multi-campus. Dans un tel contexte, bien que les aspects logistiques et technologiques représentent parfois des défis de taille, on doit d'abord s'assurer que l'expérience éducative reste de qualité, autant pour les étudiants à distance que pour ceux en présentiel. Le concept de communauté d'apprentissage (*Community of inquiry, CoI*), initialement introduit par C. S. Pierce et John Dewey (1938), permet de mesurer les trois éléments nécessaires à l'apprentissage - soit, la présence cognitive, la présence sociale et la présence enseignante. En évaluant la

perception de communauté d'apprentissage auprès des étudiants, on peut donc mesurer la satisfaction des étudiants envers les opportunités d'apprentissage qui leur sont présentées.

OBJECTIFS : L'objectif de la recherche est de déterminer s'il y a une différence entre la perception d'une communauté d'apprentissage entre les étudiants à distance et les étudiants en présentiel.

METHODE : Garrison, Anderson et Archer (2000) ont développé un questionnaire permettant de mesurer les trois éléments d'une communauté d'apprentissage – soit, la présence cognitive, la présence sociale et la présence enseignante. Ce questionnaire est administré aux étudiants en présentiel et au site distant (voir section 3) afin de comparer et déterminer, à l'aide d'un *t-test*, s'il y a une différence de perception de la communauté d'apprentissage entre les deux groupes. Il s'agit d'une recherche mixe puisque les résultats quantitatifs sont accompagnés de données qualitatives telles que des commentaires de la part des étudiants.

3. NATURE ET DUREE DE LA PARTICIPATION A LA RECHERCHE

a) DESCRIPTION DE LA PARTICIPATION DES PARTICIPANTS OU PARTICIPANTES A LA RECHERCHE

Les étudiants sont invités à participer sur une base volontaire. L'enseignant du cours est contacté et invité à collaborer au projet recherche - soit en permettant de passer un questionnaire en classe aux étudiants. Ensuite, les étudiants sont informés en classe par l'enseignant et la chercheure du projet de recherche. La *Lettre d'information au participant* leur est envoyée à titre indicatif par MIO au début du mois de mars. À la fin mars, les étudiants qui consentent à participer sont invités, en classe, à signer la *Lettre d'information au participant* et à remplir le questionnaire. Les résultats leur sont divulgués de manière anonyme vers la fin avril. Ils sont alors invités à prendre rendez-vous ou envoyer par MIO tout commentaire ou réflexion additionnelle.

b) AVANTAGES AINSI QUE BENEFICES SOCIAUX ET PERSONNELS

Les participants sont appelés à observer de leur expérience d'apprentissage dans un contexte de téléenseignement. Ils sont amenés à prendre conscience des trois présences (sociale, enseignante et cognitive) de la communauté d'apprentissage, et à identifier leur perception de ces éléments. À travers le questionnaire, ils ont une plateforme pour faire entendre leur voix et ainsi exprimer leur satisfaction ou insatisfaction. En consultant les résultats par la suite, ils peuvent comparer leur perception à celle du groupe, confirmant ou infirmant ainsi ce qu'ils percevaient peut-être comme un sentiment généralisé ou non. Un certificat-cadeau IGA de 25$ (valide à Gaspé, Carleton, Maria et Grande-Rivière) est également tiré parmi les participants pour les remercier de leur participation.

c) RISQUES ET INCONVENIENTS POUR LES PARTICIPANTS OU PARTICIPANTES ET MOYENS MIS EN PLACE POUR EN MINIMISER LES EFFETS

Les participants sont invités à répondre au questionnaire pendant le temps de classe, ce qui pourrait peut-être être perçu comme un inconvénient par certains. Cependant, les enseignant(e)s acceptent d'utiliser les 30 minutes de temps de classe pour la passation du questionnaire, intégrant ainsi cette activité dans leur planification de cours. Les participants peuvent également hésiter à répondre à certaines questions, craignant que cela n'affecte leur relation avec l'enseignant. Pour adresser ce risque, le questionnaire est rempli de façon anonyme.

d) PARTICIPATION VOLONTAIRE

Vous êtes libre d'accepter ou de refuser de participer à cette recherche, et ce, sans aucun préjudice. De plus, vous pourrez, à tout moment, vous retirer de cette recherche. Vous pouvez aussi refuser de faire certaines tâches, sans qu'une justification soit nécessaire. De son côté, la chercheuse se réserve le droit de retirer un participant ou une participante en lui fournissant des explications sur cette décision.

Également, vous êtes invité et invitées à poser des questions à propos de la recherche avant et pendant votre participation. La chercheuse s'engage à répondre à celles-ci de manière satisfaisante.

4. CONFIDENTIALITÉ

a) Traitement des données

De manière anonyme, sécuritaire et confidentielle.

b) Accès et entreposage des données

De façon sécuritaire et confidentielle.

c) Diffusion des données

Les résultats, entièrement anonymes, sont utilisés pour rédiger une thèse de maitrise dans le cadre du *Master Teacher Program* via l'Université de Sherbrooke. Ils seront également partagés avec les participants à la recherche, et le Cégep de la Gaspésie et des Îles.

5. COORDONNÉE DU SECRÉTARIAT EN ÉTHIQUE

Cette recherche est approuvée par le Comité d'éthique de la recherche avec des êtres humains du Cégep de la Gaspésie et des Îles (CÉRÊH-GIM). Si vous avez des questions ou des plaintes concernant l'éthique de cette recherche, n'hésitez pas à contacter madame Françoise Leblanc-Perreault, personne-ressource du CÉRÊH-GIM, par téléphone au 418 364-3341, poste 7224 ou par courriel à l'adresse suivante cereh@cegepgim.ca

6. SIGNATURES

a) CONSENTEMENT LIBRE ET ÉCLAIRÉ DU PARTICIPANT OU DE LA PARTICIPANTE

Je, _____ (*nom en caractères d'imprimerie*) déclare avoir lu et/ou compris le présent formulaire et j'en ai reçu un exemplaire. Je comprends la nature et le motif de ma participation au projet. J'ai eu l'occasion de poser des questions auxquelles on a répondu, à ma satisfaction. Par la présente, j'accepte librement de participer au projet. Je m'engage également à respecter la confidentialité quant aux propos qui seront émis dans le focus group.

Signature du participant ou de la participante :

_____

Fait à _____, le _____ 201___

b) DÉCLARATION DE RESPONSABILITÉ DES CHERCHEURS DE L'ÉTUDE

Je, Anne-Marie Lafortune chercheuse responsable de l'étude, déclare que les chercheurs collaborateurs ou chercheuses collaboratrices ainsi que l'équipe de recherche sommes responsables du bon déroulement du présent projet. Nous nous engageons à respecter les obligations énoncées dans ce document et également à vous informer de tous éléments qui seraient susceptibles de modifier la nature de votre consentement.

Signature de la chercheure responsable :

Fait à Gaspé le _____ 2017

a) DÉCLARATION DU RESPONSABLE DE L'OBTENTION DU CONSENTEMENT

Je, Anne-Marie Lafortune certifie avoir expliqué à la personne participante les termes du présent formulaire, avoir répondu aux questions qu'il ou qu'elle m'a posées à cet égard et lui avoir clairement indiqué qu'il ou qu'elle reste, à tout moment, libre de mettre un terme à sa participation au projet décrit ci-dessus. Je m'engage à garantir le respect des objectifs du projet et à respecter la confidentialité.

Signature :

Fait à Gaspé le _____ 2017

APPENDIX C SURVEY ON STUDENTS' PERCEPTIONS OF THE CoI IN A BLENDED SYNCHRONOUS DELIVERY MODE

QUESTIONNAIRE SUR LA COMMUNAUTÉ D'APPRENTISSAGE

RAPPEL : Ce questionnaire vise à mesurer la perception de communauté d'apprentissage dans un contexte de téléenseignement. Les réponses au questionnaire, rempli de façon anonyme, permettront de comparer notamment la perception de la présence enseignante, de la présence cognitive, de la présence étudiante, et de la présence sociale, entre les participants en présentiel et à distance. La participation à ce projet de recherche se fait sur une base volontaire; ceux et celles désirant y participer doivent avoir pris connaissance et signé la *Lettre d'information au participant*.

PROFIL DU RÉPONDANT

Nom et numéro du cours	
Campus	
Genre auquel je m'identifie	☐ Masculin ☐ Féminin ☐ Préfère ne pas répondre
Statut étudiant	☐ Temps plein ☐ Temps partiel
Année dans le programme	☐ 1ere ☐ 2e ☐ 3e
Expérience avec l'enseignement à distance	☐ Première fois ☐ 2e fois ☐ 3e fois et +
Aisance à apprendre à l'aide des technologies	☐ Tout à fait à l'aise ☐ Très à l'aise ☐ À l'aise ☐ Peu à l'aise ☐ Pas du tout
Emploi	☐ Aucun ☐ Travail à temps partiel ☐ Travail à temps plein
Responsabilités familiales (enfants, aidant naturel, ou autre)	☐ Très prenantes ☐ Prenantes ☐ Peu prenantes/ne s'applique pas
Catégorie d'âge	☐ 17 ans et moins ☐ 18-21 ☐ 22-25 ☐ 26-30 ☐ 30-40 ☐ 50+

QUESTIONNAIRE

Ce questionnaire, traduction libre de Shea et Bidjerano (2010) (adaptation de Garrison, Anderson et Archer (2000), comporte 48 questions. Pour toutes les questions, répondez en utilisant l'échelle d'appréciation en 4 points ci-dessous :

Totalement en désaccord 0 1 2 3 4 **Totalement en accord**

	PRÉSENCE ENSEIGNANTE	**0**	**1**	**2**	**3**	**4**
1.	L'enseignant a clairement communiqué la matière importante du cours.	○	○	○	○	○
2.	L'enseignant a clairement communiqué les buts importants du cours.	○	○	○	○	○
3.	L'enseignant a clairement communiqué les instructions sur la façon de participer aux activités d'apprentissage du cours.	○	○	○	○	○
4.	L'enseignant a clairement communiqué les dates d'échéance importantes et la durée des activités d'apprentissage.	○	○	○	○	○
5.	L'enseignant s'est avéré utile dans l'identification des domaines d'accord et de désaccord dans la matière du cours, ce qui m'a aidé à apprendre.	○	○	○	○	○
6.	L'enseignant s'est avéré utile pour orienter la classe dans la compréhension de la matière du cours d'une manière qui m'a aidé à préciser ma pensée.	○	○	○	○	○
7.	L'enseignant s'est avéré utile pour maintenir l'engagement des étudiants et leur participation à un dialogue productif dans ce cours.	○	○	○	○	○
8.	L'enseignant s'est avéré utile pour maintenir les participants sur les tâches d'une manière qui m'a aidé à apprendre dans ce cours.	○	○	○	○	○
9.	L'enseignant a encouragé les étudiants à explorer de nouveaux concepts dans ce cours.	○	○	○	○	○
10.	Les actions de l'enseignant ont renforcé la construction d'un sentiment de communauté chez les participants dans ce cours.	○	○	○	○	○
11.	L'enseignant a contribué à orienter la discussion sur les questions pertinentes d'une façon qui m'a aidé à apprendre dans ce cours.	○	○	○	○	○
12.	L'enseignant a fourni des rétroactions qui m'ont aidé à comprendre mes forces et mes faiblesses dans ce cours.	○	○	○	○	○
13.	L'enseignant a fourni des rétroactions en temps opportun dans ce cours.	○	○	○	○	○

Selon vous, de quelle façon l'enseignant influence le sentiment d'appartenance au groupe (en présence et à distance) ?

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	PRÉSENCE SOCIALE	**0**	**1**	**2**	**3**	**4**
14.	Apprendre à connaître les autres participants au cours m'a donné un sentiment d'appartenance dans le cours.	○	○	○	○	○
15.	J'ai été en mesure d'éprouver de nettes impressions sur quelques participants au cours.	○	○	○	○	○
16.	La communication en ligne ou basée sur le web constitue un excellent moyen d'interaction sociale.	○	○	○	○	○
17.	Je me suis senti à l'aise de converser dans l'environnement en ligne dans ce cours.	○	○	○	○	○
18.	Je me suis senti à l'aise de participer aux discussions du cours.	○	○	○	○	○
19.	Je me suis senti à l'aise d'interagir avec mon enseignant et d'autres participants du cours.	○	○	○	○	○

20.	Je me suis senti à l'aise de signifier mon désaccord avec d'autres participants du cours, tout en conservant un sentiment de confiance.	○	○	○	○	○
21.	J'ai senti que mon point de vue était reconnu par les autres participants du cours.	○	○	○	○	○
22.	Les discussions en ligne m'aident à développer un sens de collaboration.	○	○	○	○	○

Selon vous, de quelle façon les autres participants du cours (en présence et à distance) ont une influence sur votre sentiment d'appartenance au groupe ?

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PRÉSENCE COGNITIVE		**0**	**1**	**2**	**3**	**4**
23.	Les problèmes posés ont augmenté mon intérêt pour les questions relatives au cours.	○	○	○	○	○
24.	Les activités du cours ont piqué ma curiosité.	○	○	○	○	○
25.	Je me suis senti motivé à explorer des questions connexes au contenu dans ce cours.	○	○	○	○	○
26.	J'ai utilisé diverses sources d'informations pour étudier les problèmes posés dans ce cours.	○	○	○	○	○
27.	Les remue-méninges (*brainstorming*) et la découverte d'informations pertinentes m'ont aidé à résoudre les questions relatives au contenu dans ce cours.	○	○	○	○	○
28.	Les discussions en ligne ont été précieuses pour m'aider à apprécier des perspectives différentes dans ce cours.	○	○	○	○	○
29.	L'association de nouveaux éléments d'information m'a permis de répondre aux questions soulevées au cours des activités dans ce cours.	○	○	○	○	○
30.	Les activités d'apprentissage m'ont permis de construire des explications/solutions dans ce cours.	○	○	○	○	○
31.	La réflexion sur le contenu et les discussions m'ont aidé à comprendre les concepts fondamentaux dans ce cours.	○	○	○	○	○
32.	Je peux décrire des moyens de tester et d'appliquer les connaissances acquises dans ce cours.	○	○	○	○	○
33.	J'ai développé des solutions aux exercices dans ce cours qui peuvent s'appliquer dans la pratique et la vie quotidienne.	○	○	○	○	○
34.	Je peux appliquer les connaissances acquises dans ce cours à mon travail ou à d'autres activités hors de la classe.	○	○	○	○	○

Commentaires par rapport à mes processus cognitifs (événement déclencheur, exploration, intégration, résolution/application).

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PRÉSENCE ÉTUDIANTE		**0**	**1**	**2**	**3**	**4**
35.	Je suis conscient(e) des meilleurs moyens que je dois prendre pour atteindre les objectifs que je me fixe.	○	○	○	○	○
36.	Je sais planifier mon temps pour gérer et accomplir le travail que j'ai à faire.	○	○	○	○	○
37.	Je n'hésite pas à demander de l'aide au besoin pour compléter un devoir, une tâche ou un travail.	○	○	○	○	○
38.	Je sais identifier les problèmes qui peuvent interférer avec la complétion du travail à accomplir.	○	○	○	○	○
39.	Je sais autoévaluer la qualité de mon travail.	○	○	○	○	○
40.	Je fais des efforts pour autoévaluer ma participation et ma motivation pour compléter le travail à faire.	○	○	○	○	○
41.	Dans un contexte d'apprentissage, je suis conscient de mes forces et faiblesses.	○	○	○	○	○
42.	Je réfléchis aux stratégies que j'utilise pour compléter le travail à faire.	○	○	○	○	○
43.	J'essaie de faire des liens entre la nouvelle matière, et mes connaissances antérieures.	○	○	○	○	○
44.	Je prends le temps de réviser la matière en lien avec le travail à faire.	○	○	○	○	○
45.	Je réalise que le fruit de mes efforts dans ce cours me servira dans le futur.	○	○	○	○	○
46.	Je cherche activement auprès de mes collègues de classe de l'information additionnelle ou complémentaire en lien avec les activités du cours.	○	○	○	○	○
47.	Je suis attentif aux changements cognitifs qui découlent de ma participation aux activités du cours.	○	○	○	○	○
48.	Ma performance académique et mes notes sont le fruit de mes efforts.	○	○	○	○	○

Commentaires par rapport à mes apprentissages.

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Commentaires additionnels.

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Merci!